



*Where ideas connect*

Department of Environmental Quality  
Division of Air Quality

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## Title V Operating Permit

**PERMIT NUMBER: 3500030001**

**DATE OF PERMIT: January 5, 2000**

Date of Last Revision: August 11, 2003

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This Operating Permit is issued to, and applies to the following:

**Name of Permittee:**

Kennecott Utah Copper Corporation  
8315 W. 3595 S.  
PO Box 6001  
Magna, UT 84044-6001

**Permitted Location:**

Smelter & Refinery  
12000 West 2100 South  
Magna, UT 84044

UTM coordinates: 4,508,000 meters Northing, 399,000 meters Easting  
SIC code: 3331

## ABSTRACT

Kennecott Utah Copper Corporation operates a copper smelter and refinery in Salt Lake County, Utah. The smelter and refinery were recently modernized with a new refinery facility completed in 1995 and smelter facility completed during 1995 and again modified in 1997. The Kennecott smelter employs flash smelting technology with flash converting technology to produce copper anodes and high concentration sulfur dioxide gases. The gases are treated by electrostatic precipitators (ESP), baghouses, scrubbers, and a high-efficiency double contact acid plant. The Kennecott refinery uses an electrolytic refining process to convert the smelter-produced anode copper to cathode copper and also recovers precious metals from the electrolytic refining slimes in a precious metals circuit. Kennecott Utah Copper Corporation is located in a National Ambient Air Quality Standard - PM<sub>10</sub> and sulfur dioxide non-attainment area and an ozone maintenance area. Kennecott is a major source for emissions of NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>10</sub>, and is subject to NSPS Subparts A, Db, Dc, Kb, and P.

## UTAH AIR QUALITY BOARD

By:

Richard W. Sprott, Executive Secretary

Prepared By:

Jennifer He

## Operating Permit History

1/5/2000 - Permit issued	Action initiated by an initial operating permit application	Enter project description here.
5/16/2000 -Permit modified	Action initiated by a significant operating permit modification	A request by KUCC was made on February 1, 2000, that the pressure drop range for unit SME-011g Matte Drying and Grinding Plant Baghouse be revised from 5 - 10 inches water gauge to 5 - 13 inches water gauge. KUCC has made adjustments to the Matte Grinding Mill to reduce the grind size resulting in an increase in pressure drop across the baghouse. The off-gases from this area are transported to the main stack which is well below its emission limits, thus no change in emissions will result from this modification.
10/16/2000 -Permit modified	Action initiated by an administrative amendment (initiated by source)	A Notice of Intent was submitted by KUCC on September 30, 1999, to: install a spray cooler, a lime injection system, and a baghouse upstream of the existing anode furnace scrubbers (reduces emissions of particulate matter containing hazardous air pollutants); to duct emissions from the holding furnace to the existing shaft furnace baghouse; allow routing of FSF & FCF emissions to secondary baghouse/scrubber during shutdown; and to modify approval order requirements identified as being obsolete or unnecessary & add existing equipment to the approval order not previously listed.
3/8/2001 -Permit modified	Action initiated by an administrative amendment (initiated by source)	A Notice Of Intent was submitted by KUCC on April 12, 2000 to: increase the annual average NO <sub>x</sub> emissions limit on the smelter main stack from 26.6 lb/hr to 35.0 lb/hr, change from annual NO <sub>x</sub> stack testing to continuous emissions monitoring, and delete individual NO <sub>x</sub> emission limits on three ducts leading to the smelter main stack. An Approval Order was issued December 22, 2000 (DAQE-836-00)

		and EPA review was completed on February 2, 2001 with no further comments.
10/12/2001 -Permit modified	Action initiated by a significant operating permit modification	A request by KUCC was made on August 1, 2000 for addition and revision of operating ranges for anode area baghouses and scrubber. The pressure drop range for the new anode furnace baghouse SME011h1 will be 1- 9 inches water gauge. The pressure drop for the existing anode furnace off-gas scrubber will be revised from 33.5 - 50.5 inches water gauge to 25 - 50.5 inches water gauge, and scrubbing liquid flow rate will be revised from greater than 4000 gpm to greater than 2000 gpm. This operating condition change is due to the addition of new anode furnace baghouse in the upstream. The pressure drop for the existing anode shaft furnace baghouse SME011h2 will be revised from 3 - 5 inches water gauge to 1 - 8 inches water gauge due to the unique way the furnace operates. No change in emissions will result from this modification.
8/11/2003 -Permit modified	Action initiated by an administrative amendment (initiated by DAQ)	due to issuance of AO DAQE-AN0346024-03, for using the existing selenium production baghouse to control dust from the filter presses; modifying the fuel limit expressed in terms of heat input rather than gas volume; adding the option to use landfill gas in the two boilers; deleting PM <sub>10</sub> limit for Precious Metals Filter Presses Unit; and deleting the RMP requirement from the permit due to de-register action on Nov 11, 2002.

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**Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.**

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

**Section I: General Provisions**

**I.A. Federal Enforcement.**

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

**I.B. Permitted Activity(ies).**

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

**I.C. Duty to Comply.**

I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))

I.C.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (R307-415-6a(6)(b))

I.C.3 The permittee shall furnish to the Executive Secretary, within a reasonable time, any information that the Executive Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Executive Secretary copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance shall not stay

any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

**I.D. Permit Expiration and Renewal.**

I.D.1 **This permit is issued for a fixed term of five years and expires on January 5, 2005.** (R307-415-6a(2))

I.D.2 Application for renewal of this permit is due by July 5, 2004. An application may be submitted early for any reason. (R307-415-5a(1)(c))

I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))

I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

**I.E. Application Shield.**

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Executive Secretary takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Executive Secretary any additional information identified as being needed to process the application. (R307-415-7b(2))

**I.F. Severability.**

In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force. (R307-415-6a(5))

**I.G. Permit Fee.**

I.G.1 The permittee shall pay an annual emission fee to the Executive Secretary consistent with R307-415-9. (R307-415-6a(7))

I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

**I.H. No Property Rights.**

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

**I.I. Revision Exception.**

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (R307-415-6a(8))

**I.J. Inspection and Entry.**

I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Executive Secretary or an authorized representative to perform any of the following:

I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))

I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))

I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. (R307-415-6c(2)(c))

I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))

I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

**I.K. Certification.**

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (R307-415-5d)

**I.L. Compliance Certification.**

I.L.1 Permittee shall submit to the Executive Secretary an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than **December 15, 2000** and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))

I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;

I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the monitoring and related

recordkeeping and reporting requirements in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;

- I.L.1.c The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and
- I.L.1.d Such other facts as the Executive Secretary may require to determine the compliance status.
- I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Executive Secretary: (R307-415-6c(5)(d))

Office of Enforcement, Compliance and Environmental Justice  
(mail code 8ENF)  
EPA, Region VIII  
999 18th Street, Suite 300  
Denver, CO 80202-2466

**I.M. Permit Shield.**

- I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:
  - I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))
  - I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))
- I.M.2 Nothing in this permit shall alter or affect any of the following:
  - I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))
  - I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b))
  - I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))

I.M.2.d The ability of the Executive Secretary to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

**I.N. Emergency Provision.**

I.N.1 An “emergency” is any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))

I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))

I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))

I.N.2.c During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit. (R307-415-6g(3)(c))

I.N.2.d The permittee submitted notice of the emergency to the Executive Secretary within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))

I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))

I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

**I.O. Operational Flexibility.**

Operational flexibility is governed by R307-415-7d(1).

**I.P. Off-permit Changes.**

Off-permit changes are governed by R307-415-7d(2).

**I.Q. Administrative Permit Amendments.**

Administrative permit amendments are governed by R307-415-7e.

**I.R. Permit Modifications.**

Permit modifications are governed by R307-415-7f.

**I.S. Records and Reporting.**

**I.S.1 Records.**

I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii))

I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))

I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.

I.S.1.b.2 The date analyses were performed.

I.S.1.b.3 The company or entity that performed the analyses.

I.S.1.b.4 The analytical techniques or methods used.

I.S.1.b.5 The results of such analyses.

I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.

I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.

**I.S.2 Reports.**

I.S.2.a Monitoring reports shall be submitted to the Executive Secretary every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))

I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i))

I.S.2.c The Executive Secretary shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. **Prompt, as used in this condition, shall be defined as written notification within 14 days.** Deviations from permit requirements due to unavoidable breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))

**I.S.3 Notification Addresses.**

I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Executive Secretary are to be sent to the following address or to such other address as may be required by the Executive Secretary:

Utah Division of Air Quality  
P.O. Box 144820  
Salt Lake City, UT 84114-4820  
Phone: 801-536-4000

- I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Executive Secretary:

For annual compliance certifications

Environmental Protection Agency, Region VIII  
Office of Enforcement, Compliance and  
Environmental Justice (mail code 8ENF)  
999 18th Street, Suite 300  
Denver, CO 80202-2466

For reports, notifications, or other correspondence  
related to permit modifications, applications, etc.

Environmental Protection Agency, Region VIII  
Office of Partnerships & Regulatory Assistance  
Air & Radiation Program (mail code 8P-AR)  
999 18th Street, Suite 300  
Denver, CO 80202-2466  
Phone: 303-312-6440

**I.T. Reopening for Cause.**

- I.T.1 A permit shall be reopened and revised under any of the following circumstances:

I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

I.T.1.b The Executive Secretary or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))

I.T.1.c EPA or the Executive Secretary determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))

I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))

I.T.2 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. (R307-415-7g(2))

**I.U. Inventory Requirements.**

- I.U.1      An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)
- I.U.2      A Hazardous Air Pollutant Inventory shall be submitted in accordance with the procedures of R307-155, Hazardous Air Pollutant Inventory. (R307-155)
- I.U.3      An emission statement shall be submitted in accordance with the procedures in R307-158, Emission Statement Inventory. (R307-158)

## **Section II: SPECIAL PROVISIONS**

### **II.A. Emission Unit(s) Permitted to Discharge Air Contaminants.**

(R307-415-4(3)(a) and R307-415-4(4))

**II.A.1 Smelter Operations** (designated as Emission unit #Smelter)

**II.A.2 Filter Plant Wet Feed Conveyor (Stack 1)** (designated as Emission unit #SME 001)

Unit Description: Wet copper concentrate filter cake is transferred from the filter plant along an enclosed conveyor system directly to the feed storage building. The conveyor and transfer points are vented to a baghouse.

**II.A.3 Wet Feed Storage Building (Stack 2)** (designated as Emission unit #SME 002)

Unit Description: Wet copper concentrate feed is stored in the enclosed wet feed storage building. Particulate emissions from the loading of materials into the feed storage building and from reclaiming materials are vented to a baghouse.

**II.A.4 Wet Feed Conveyor Transfer Point (Stack 3)** (designated as Emission unit #SME 003)

Unit Description: Copper concentrate reclaimed from the storage building is delivered to a loading bin by two enclosed conveyors. Particulate emissions from the transfer point of wet feed from one belt to the other is controlled by a baghouse.

**II.A.5 Wet Feed Bins (Stack 4)** (designated as Emission unit #SME 004)

Unit Description: Silica flux, concentrate, and converter slag are transferred directly to feed bins then conveyed to the dryer. Particulate emissions from the loading of wet flux & concentrate and from transfer points of the conveyor are vented to a baghouse.

**II.A.6 Flash Smelting Furnace Dry Feed Bin (Stack 5)** (designated as Emission unit #SME 005)

Unit Description: Product leaving the concentrate rotary dryer is delivered in an enclosed pneumatic transfer to the flash smelting furnace (FSF) feed bin. Dry feed bin loading, bin discharge points, and chain conveyors are vented to a baghouse.

**II.A.7 Rotary Dryer** (designated as Emission unit #SME 011e)

Unit Description: Feed for the flash smelting furnace is dried in a natural gas fired rotary dryer. The dryer uses low NO<sub>x</sub> burners. Dryer off gas is vented through a baghouse, an alkaline scrubber, then vented to the main stack.

**II.A.8 Flash Smelting Furnace (FSF)** (designated as Emission unit #SME 011b1)

Unit Description: Copper concentrate & flux with oxygen are fed into the flash smelting furnace to produce molten products. The process gas is exhausted to a waste heat boiler, ESP, wet scrubber, and then to a wet ESP & acid plant also used by FCF.

**II.A.9 Slag Concentrator** (designated as Emission unit #SME SLAG)

Unit Description: Slag from the FSF or FCF is delivered to slag pots, cooled, crushed, and transferred to the slag mill or stockpiled. Fugitive emissions from the crusher and conveyor transfer points are controlled by water sprays.

**II.A.10 Matte Drying and Grinding Plant** (designated as Emission unit #SME 011g)

Unit Description: Grinds and dries wet granulated matte copper. Warmed air is blown through the mill to dry the matte. Ground matte is separated from the drying air by a baghouse. Cleaned air is discharged to the main stack and matte conveyed to a bin. No unit-specific applicable requirements.

**II.A.11 Smelter Limestone Flux Bin (Stack 6)** (designated as Emission unit #SME 006)

Unit Description: Dry lime or limestone flux for use in the converting process is delivered to the smelter and pneumatically conveyed from an enclosed delivery truck to the limestone storage bin. Displaced air from the loading of the bin is vented to a baghouse.

- II.A.12 **Dry Matte Bin (Stack 13)** (designated as Emission unit #SME 013)  
Unit Description: Dry ground matte is conveyed by pneumatic pipeline from the matte grinding plant to the dry matte bin. Particulate emissions from the loading of the dry matte bin are controlled by a baghouse.
- II.A.13 **Flash Converting Furnace (FCF)** (designated as Emission unit #SME 011b2)  
Unit Description: Ground copper matte & flux with oxygen are fed into the flash converting furnace to produce molten product (blister). The process gas is exhausted to a waste heat boiler, ESP, wet scrubber, and then to a wet ESP & acid plant also used by FSF.
- II.A.14 **Flash Smelting & Converting Combined** (designated as Emission unit #SME FSF/FCF)  
Unit Description: Identical conditions on Flash Smelting Furnace (SME 011b1) and Flash Converting Furnace (SME 011b2).
- II.A.15 **Secondary Gas System** (designated as Emission unit #SME 011a)  
Unit Description: Hoods over launders, slag filling stns., granulation tks., FSF&FCF, & tapholes - directed to secondary gas baghouse (w/ lime injection system), secondary gas scrubber, then to main stack. FSF & FCF gases may be directed to this system during shutdown.
- II.A.16 **Granulation Tanks** (designated as Emission unit #SME 011a1)  
Unit Description: Molten matte from the FSF and molten converter slag from the FCF are granulated with water in separate granulation tanks. The gases and steam are directed to the secondary gas system. No unit-specific applicable requirements.
- II.A.17 **Slag Pot Filling Stations** (designated as Emission unit #SME 011a2)  
Unit Description: Slag from the FSF and FCF is laundered into slag pots. Fugitive emissions are captured by hoods and directed to the secondary gas system. No unit-specific applicable requirements.
- II.A.18 **Anode Refining Furnaces (2)** (designated as Emission unit #SME 011h1)  
Unit Description: Blister copper produced in the FCF is laundered to one of two anode furnaces. The anode furnaces are natural gas fired with oxyfuel burners. Off-gas is vented (in series) to quench tower, lime injection, baghouse, & two scrubbers. No unit-specific applicable requirements.
- II.A.19 **Secondary Gas System Lime Silo (Stack 29)** (designated as Emission unit #SME 029)  
Unit Description: Secondary gas system lime silo with bin vent baghouse.
- II.A.20 **Anode Casting Wheels** (designated as Emission unit #SME 011h4)  
Unit Description: Anode copper is cast in one of two circular casting wheels. Casting wheel cooling is hooded to collect steam. Casting wheel emissions are vented to a quench tower then to the main stack. No unit-specific applicable requirements.
- II.A.21 **Anode Area Lime Silo (Stack 28)** (designated as Emission unit #SME 028)  
Unit Description: Lime silo with bin vent baghouse.
- II.A.22 **Mold Casting Furnace** (designated as Emission unit #SME MOLD)  
Unit Description: A small natural gas fired mold casting furnace was permitted but its installation has been deferred. Any emissions from this furnace would be fugitive. No unit-specific applicable requirements.
- II.A.23 **Anode Shaft Furnace** (designated as Emission unit #SME 011h2)  
Unit Description: The shaft furnace melts rejected copper anodes and anode scrap from the refinery. The melted copper is then recast into new anodes. Exhaust gases from the shaft furnace are quenched then cleaned in a baghouse then discharged to the main stack. No unit-specific applicable requirements.
- II.A.24 **Anode Holding Furnace** (designated as Emission unit #SME 011h3)  
Unit Description: Molten copper from the shaft furnace is transferred to a holding furnace. Ventilation gases from the holding furnace join the other anode gases before being ducted to the main stack. No unit-specific applicable requirements.

- II.A.25      **Anode Area** (designated as Emission unit #SME 011h)  
Unit Description: The anode area consists of the two anode refining furnaces (SME 011h1), the shaft furnace (SME 011h2), the anode holding furnace (SME 011h3), and the casting wheels (SME 011h4). Gases from these units are ducted together then ducted to the main stack. No unit-specific applicable requirements.
- II.A.26      **Hot Metals Building Roof Vents** (designated as Emission unit #SME ROOF)  
Unit Description: Fugitive emissions not captured by the primary or secondary gas systems in the hot metals building, including the dryer area, FSF & FCF area, and the anode area, are ventilated to the atmosphere through roof vents. No unit-specific applicable requirements.
- II.A.27      **Mold Coating (Barite) Bin (Stack 15)** (designated as Emission unit #SME 015)  
Unit Description: Barium sulfate (Barite) is delivered to the smelter in enclosed delivery trucks and pneumatically conveyed to a storage bin. Displaced air from bin loading is vented to a baghouse.
- II.A.28      **Acid Plant Preheater (Stack 8)** (designated as Emission unit #SME 008)  
Unit Description: The acid plant is brought up to proper temperature with a preheater. The preheater is natural gas fired and equipped with a low NO<sub>x</sub> burner. Exhaust from the preheater discharges to atmosphere through its own stack.
- II.A.29      **Acid Plant** (designated as Emission unit #SME 011b)  
Unit Description: Double contact acid plant for removal of sulfur dioxide from the off-gases of the FSF and FCF. Produced sulfuric acid is sold. The system is equipped with tubular candle fiber mist eliminators and the tail gas discharges to the main stack.
- II.A.30      **Hydrometallurgical Plant Limestone Bin (Stack 19)** (designated as Emission unit #SME 019)  
Unit Description: Limestone used in the hydrometallurgical plant is pneumatically conveyed from delivery trucks to a storage bin. Displaced air from bin loading is vented to a baghouse.
- II.A.31      **Hydrometallurgical Plant Lime Bin (Stack 20)** (designated as Emission unit #SME 020)  
Unit Description: Lime used in the hydrometallurgical plant is pneumatically conveyed from delivery trucks to a storage bin. Displaced air from bin loading is vented to a baghouse.
- II.A.32      **Hydrometallurgical Plant** (designated as Emission unit #SME 011d)  
Unit Description: ESP dust from FSF & FCF, discharge from wet scrubbers, and decopperized refinery solutions are slurried to the hydromet plant for processing metals. The hydromet plant has 2 dedicated alkaline scrubbers that discharge to the main stack.
- II.A.33      **Powerhouse Superheater & Foster Wheeler Boiler** (designated as Emission unit #SME 011f)  
Unit Description: Superheater heats steam from FSF & FCF waste heat boilers. The boiler (ranging from 10-100 MMBtu/Hr.) produces superheated steam to start the smelter, drive acid plant compressors, and standby power. Gases from these units are ducted to the main stack.
- II.A.34      **Powerhouse Holman Boiler (Stack 26)** (designated as Emission unit #SME 026)  
Unit Description: Approximately 187 MMBtu/Hr. boiler producing steam to start up the smelter and provide standby power. The boiler is equipped with low NO<sub>x</sub> burners and flue gas recirculation. Combustion gas is discharged to the boiler stack.
- II.A.35      **Main Stack (Stack 11)** (designated as Emission unit #SME 011)  
Unit Description: Gases from the acid plant, secondary gas system, rotary dryer, powerhouse superheater and Foster Wheeler boiler, matte grinding plant, anode area, and hydrometallurgical plant are vented to the smelter main stack.
- II.A.36      **Recycle Crushing and Storage Building (Stack 27)** (designated as Emission unit #SME 027)  
Unit Description: Waste heat boiler & electrostatic precipitator dust, dry pond sediment, and other materials are crushed and agglomerated in a pelletizer, then stored in a building

for reprocessing through the smelter. The building and processes are vented to a baghouse.

- II.A.37 **Natural Gas Consumption Group 1** (designated as Emission unit #SME NG1)  
Unit Description: Natural gas consumption is limited for total consumption in the smelter powerhouse. The powerhouse consists of the powerhouse superheater and Foster Wheeler boiler (SME 011f), and the Holman boiler (SME 026).
- II.A.38 **Natural Gas Consumption Group 2** (designated as Emission unit #SME NG2)  
Unit Description: Natural gas consumption is limited for total consumption in the following units: anode area (SME 011h), mold casting furnace (SME MOLD), launder heaters, matte grinding plant (SME 011g), and rotary concentrate dryer (SME 011e).
- II.A.39 **Smelter Laboratory Sample Preparation (Stack 22)** (designated as Emission unit #SME 022)  
Unit Description: Samples of concentrate, matte, slag, etc. are crushed in preparation for laboratory analysis. The Laboratory crushers are vented through a baghouse.
- II.A.40 **Smelter Carpentry Shop (Stack 23)** (designated as Emission unit #SME 023)  
Unit Description: Woodworking carpentry shop. Sawdust emissions from woodworking operations are passed through a cyclone dust collector prior to discharge to the atmosphere.
- II.A.41 **Vacuum Cleaning Systems (Stacks 17a, 17b, 17c)** (designated as Emission unit #SME 017a, b, c)  
Unit Description: Three vacuum cleaning systems with remote pickups are located in the smelter. The systems are used to vacuum up spilled concentrate, feed mix, ground matte, etc. Each is vented through its own baghouse and discharged to atmosphere through its own stack.
- II.A.42 **Smelter Unleaded Gasoline Storage Tank** (designated as Emission unit #SME SA-1)  
Unit Description: 10,000 gallon capacity above ground unleaded gasoline storage tank with approximately 80,000 gallons throughput per year. The gasoline is delivered to the tank by bulk truck and is dispensed to light duty vehicles as needed.
- II.A.43 **Smelter Cold Solvent Degreasers** (designated as Emission unit #SMEi210)  
Unit Description: Organic solvent is used in degreasing tanks for small parts washing. The cold solvent degreasers have a total throughput of approximately 300 gallons solvent per year.
- II.A.44 **Smelter Powerhouse Emergency Generators** (designated as Emission unit #SME gen)  
Unit Description: Two #2 diesel fired emergency generators, approximately 2847 hp each, capable of operating essential equipment (such as pumps and fans) for preventing damage in the event of a power outage.
- II.A.45 **Smelter Cooling Towers** (designated as Emission unit #SME CT311, 316, 321)  
Unit Description: Three cooling towers serve the acid plant, powerhouse, and granulators, respectively. No unit-specific applicable requirements.
- II.A.46 **Space Heaters and Water Heaters** (designated as Emission unit #SME SH, WH)  
Unit Description: Numerous small natural gas fired space heaters and water heaters. No unit-specific applicable requirements.
- II.A.47 **Storage Piles** (designated as Emission unit #SME STRG)  
Unit Description: Concentrate, granulated matte, slag, and other materials are stored in outdoor storage piles on pads. No unit-specific applicable requirements.
- II.A.48 **Refinery Operations** (designated as Emission unit #Refinery)
- II.A.49 **Electrolytic Refining Tanks** (designated as Emission unit #REF TH)  
Unit Description: Copper anodes produced at the smelter are immersed in heated electrolyte, a solution of sulfuric acid and copper sulfate, in polymer concrete tanks in the tankhouse building. Copper cathodes are produced by an electrolytic refining process. No unit-specific applicable requirements.

- II.A.50      **Liberator** (designated as Emission unit #REF 001)  
Unit Description: A small amount of electrolyte is circulated from the electrolytic tanks to the liberator electrowinning process, used to control concentration of copper in solution. The electrolyte purification demister pad collects mist emitted from the liberator.
- II.A.51      **Refinery Boilers** (designated as Emission unit #REF 002/003)  
Unit Description: Two boilers (capable of burning natural gas, landfill gas, or fuel oil; approx. 82 MMBtu/Hr. output each; and equipped with low excess air, low NO<sub>x</sub> burner and flue gas recirculation technologies) are used to generate steam to heat electrolyte solution.
- II.A.52      **Cathode Washing** (designated as Emission unit #REF 004)  
Unit Description: Cathodes are transported from the "tankhouse" by automatic guided vehicles (AGV) to the machine and product control building (MPC) where they are washed. Acid mist produced is collected through local hooding and passed through demister pads.
- II.A.53      **Anode Scrap Washing** (designated as Emission unit #REF 005)  
Unit Description: Spent anodes are transported from the "tankhouse" by automatic guided vehicles (AGV) to the machine and product control building (MPC) where they are washed. Acid mist produced is collected through local hooding and passed through demister pads.
- II.A.54      **Hydrometallurgical Precious Metals Recovery** (designated as Emission unit #REF 006)  
Unit Description: Gold, silver, selenium, copper telluride, and lead salts are recovered in a series of hydrometallurgical processes. Acidic gases from the processes are collected, scrubbed with a soda ash solution, and exhausted through the sodium based scrubber.
- II.A.55      **Soda Ash Silo** (designated as Emission unit #REF 011)  
Unit Description: Soda ash for feeding sodium based scrubber is stored in a silo. Air displaced in the silo during soda ash loading is passed through a baghouse.
- II.A.56      **Hydrometallurgical Silver Production** (designated as Emission unit #REF 007)  
Unit Description: Ammonium hydroxide is used to leach silver from a solid mixture. Ammonia is recovered and regenerated in a closed loop system. H<sub>2</sub>SO<sub>4</sub> is used to precipitate the silver chloride salt. Ammonia vapor from this process is ducted to an acidic scrubber.
- II.A.57      **Precious Metals Filter Presses** (designated as Emission unit #REF 008)  
Unit Description: Product lead carbonate and crude selenium are dewatered in filter presses, which are vented during emptying and cleaning through the precious metals filter press baghouse.
- II.A.58      **Selenium Crushing and Packaging** (designated as Emission unit #REF 009)  
Unit Description: Either Purified (retorted and condensed) selenium is crushed, sized, and packaged for shipment or filtered crude selenium is packaged for shipment. This system vents to a baghouse.
- II.A.59      **Gold/Silver Recovery** (designated as Emission unit #REF 010)  
Unit Description: Following leaching and solvent extraction processes, gold and silver are melted in furnaces to produce bullion. Emissions from drying of precious metals sands and from metals volatilized during melting processes are vented to a baghouse.
- II.A.60      **Emergency Generator - Precious Metals** (designated as Emission unit #REFi 210)  
Unit Description: One approximate 487.5 hp, #2 diesel fired emergency generator for emergency powering of the refinery precious metals plant.
- II.A.61      **Refinery Laboratory Sample Preparation** (designated as Emission unit #REF PREP)  
Unit Description: A laboratory induction furnace is hooded and vented inside the Machine and Product Control (MPC) building. No unit-specific applicable requirements.

- II.A.62      **Refinery Unleaded Gasoline Storage Tank** (designated as Emission unit #REF SA-1)  
Unit Description: 2,500 gallon capacity above ground unleaded gasoline storage tank with approximately 12,800 gallons throughput per year. The gasoline is delivered to the storage tank by bulk truck and is dispensed to light duty vehicles as required.
- II.A.63      **Refinery Volatile Organic Liquid Storage Tanks** (designated as Emission unit #REF VOL)  
Unit Description: Two 37,000 gallon and one 500 gallon fuel oil storage tanks located in the refinery area. There are no unit specific applicable requirements for the 500 gallon tank.
- II.A.64      **Refinery Cold Solvent Degreasers** (designated as Emission unit #REFi 201)  
Unit Description: Organic solvent is used in degreasing tanks for small parts washing. The cold solvent degreasers have a total throughput of approximately 25 gallons solvent per year.
- II.A.65      **Refinery Paint Shop** (designated as Emission unit #REFi 202)  
Unit Description: Paint shop surface coating with organic solvent evaporation from stripping. Annual usage equals approximately 23 gallons per year of paint primer & 106 gallons per year of paint. No unit-specific applicable requirements.
- II.A.66      **Refinery Comfort Heaters** (designated as Emission unit #REFi204, 205, 206, 207, 208)  
Unit Description: Natural gas supplied space heaters used for comfort heating are located throughout the refinery. No unit-specific applicable requirements.
- II.A.67      **Refinery Cooling Towers** (designated as Emission unit #REF CT 001, 002)  
Unit Description: Two water cooling towers are in operation at the refinery. No unit-specific applicable requirements.

II.B.      **Requirements and limitations.**

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated: (R307-415-6a(1))

II.B.1      **Conditions on Smelter Operations (Emission unit #Smelter)**

II.B.1.a      **Condition:**

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any permitted plant equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All installations and facilities authorized by this permit shall be adequately and properly maintained. Maintenance records shall be maintained while the plant is in operation. All pollution control equipment shall be installed, maintained, and operated properly. Instructions from the vendor or established maintenance practices that maximize pollution control shall be followed. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow rate indicators, temperature gauges, continuous emissions monitoring systems, etc., shall be installed, operated properly and easily accessible to compliance inspectors. A copy of all manufacturers' operating instructions for pollution control equipment and pollution emitting equipment shall be kept on site. These instructions shall be available to all employees who operate the equipment and shall be made available to compliance inspectors upon request. Maintenance records shall be made available to the Executive

Secretary or Executive Secretary's representative upon request.. [Authority granted under R307-401-5; condition originated in DAQE-836-00]

II.B.1.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.1.a.2

**Recordkeeping:**

Permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.b

**Condition:**

The permittee shall comply with the applicable requirements for servicing of motor vehicle air conditioners pursuant to 40 CFR 82, Subpart B - Servicing of Motor Vehicle Air Conditioners. [Authority granted under 40 CFR 82.30(b); condition originated in 40 CFR 82]

II.B.1.b.1

**Monitoring:**

The permittee shall certify, in the annual compliance statement required in Section I of this permit, its compliance status with the requirements of 40 CFR 82, Subpart B.

II.B.1.b.2

**Recordkeeping:**

All records required in 40 CFR 82, Subpart B shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.1.b.3

**Reporting:**

All reports required in 40 CFR 82, Subpart B shall be submitted as required. There are no additional reporting requirements except as outlined in Section I of this permit.

II.B.1.c

**Condition:**

The permittee shall comply with the applicable requirements for recycling and emission reduction for class I and class II refrigerants pursuant to 40 CFR 82, Subpart F - Recycling and Emissions Reduction. [Authority granted under 40 CFR 82.150(b); condition originated in 40 CFR 82]

II.B.1.c.1

**Monitoring:**

The permittee shall certify, in the annual compliance statement required in Section I of this permit, its compliance status with the requirements of 40 CFR 82, Subpart F.

II.B.1.c.2

**Recordkeeping:**

All records required in 40 CFR 82, Subpart F shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.1.c.3

**Reporting:**

All reports required in 40 CFR 82, Subpart F shall be submitted as required. There are no additional reporting requirements except as outlined in Section I of this permit.

II.B.1.d

**Condition:**

Visible emissions shall be no greater than 20 percent opacity unless otherwise specified in this permit. [Authority granted under R307-201-1(2); condition originated in R307-201-1(2)]

II.B.1.d.1

**Monitoring:**

A visual opacity survey of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. If visible emissions other than steam are observed from an emission unit, an opacity determination of that emission unit shall be performed by a certified observer within 24 hours of the initial survey. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 for point sources, and in accordance with the most recently approved fugitive dust control plan for fugitive emission sources.

II.B.1.d.2

**Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 or fugitive dust control plan shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.d.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.e

**Condition:**

Sulfur content of diesel fuel consumed shall be no greater than 0.05 percent by weight. [Authority granted under R307-401-6(1) [BACT], R307-203-1; condition originated in DAQE-836-00]

II.B.1.e.1

**Monitoring:**

Compliance with this limitation shall be determined either by testing each fuel delivery for the sulfur content or by inspection of the fuel sulfur-content specifications provided by the vendor in purchase records. Sulfur content in either instance shall be determined in accordance with ASTM-4294, or equivalent.

II.B.1.e.2

**Recordkeeping:**

Compliance with the above limitation shall be demonstrated by maintaining fuel receipt records showing sulfur content of the delivered fuel or maintaining records of all sulfur content testing performed on the delivered fuel.

II.B.1.e.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.f

**Condition:**

The permittee shall use natural gas as a primary fuel and propane as back-up fuel in the following smelter operations: acid plant preheater, powerhouse superheater, Foster-Wheeler boiler, anode plant (including shaft furnace, anode furnaces, holding furnaces, and mold furnace), launder heaters, matte grinding and concentrate drying. The propane shall only be used during periods of natural gas curtailment. Natural gas curtailment is defined as any period when the natural gas provider/supplier imposes an interruption of service, and the curtailment is involuntary and beyond the control of the permittee.

[Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

**Reviewer comment: This condition is specific to the smelter operations only**

II.B.1.f.1

**Monitoring:**

The backup fuel shall be monitored by use of level sensors in the tanks, which shall be observed following each use of backup fuel.

II.B.1.f.2

**Recordkeeping:**

The permittee shall maintain records that document the reason for backup fuel usage (i.e. natural gas curtailment, maintenance, etc.), date, and duration. All readings required to be taken shall be documented and maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.1.f.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.g

**Condition:**

Emissions from sources of fugitive dust shall be minimized. The permittee shall develop and implement a fugitive dust control plan, approved by the Executive Secretary, that minimizes fugitive dust. Compliance shall be based on the permittee adhering to the most recently approved fugitive dust control plan. Natural sources of dust and fugitive emissions are not fugitive dust within the meaning of this condition. [Authority granted under R307-205-3; condition originated in DAQE-836-00]

II.B.1.g.1

**Monitoring:**

The permittee shall perform monitoring as described in the most recently approved fugitive dust control plan.

II.B.1.g.2

**Recordkeeping:**

Records required by the most recently approved fugitive dust control plan shall be maintained in accordance with the plan and for a period of five years.

II.B.1.g.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.h

**Condition:**

All roads, permanent parking lots, and service yards directly servicing the permittee's approved constructed installations listed as emission units II.A.2. through II.A.46 shall be paved. Fugitive dust generated from these areas shall be limited to 20 percent opacity. Methods of control shall include, but not be limited to, sweeping and water flushing of

the affected areas. [Authority granted under R307-205-3; condition originated in DAQE-836-00]

II.B.1.h.1

**Monitoring:**

The permittee shall perform monitoring as described in the most recently approved fugitive dust control plan.

II.B.1.h.2

**Recordkeeping:**

Records required by the most recently approved fugitive dust control plan shall be maintained in accordance with the plan and for a period of five years.

II.B.1.h.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.i

**Condition:**

Records shall be maintained of the material (salt, crushed slag, or sand) applied to the roads. [Authority granted under R307-307; condition originated in R307-307]

II.B.1.i.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.1.i.2

**Recordkeeping:**

The following records shall be maintained as outlined in Provision I.S.1 of this permit:

For Salt - the quantity applied, the percent by weight of insoluble solids in the salt, and the percentage of the material that is sodium chloride (NaCl).

For Sand or Crushed Slag - the quantity applied and the percent by weight of fine material which passes the number 200 sieve in a standard gradation analysis. (origin: R307-307)

II.B.1.i.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.j

**Condition:**

Pressure drops and liquid flow rates for each scrubber listed below shall be maintained within the given ranges. (All pressure drop readings in inches Water Gauge)

SME 011d - Hydrometallurgical Plant Scrubber:

Model # 480 - Pressure Drop = 5" - 10"    Liquid Flow Rate = greater than 50 gpm

Model # 575 - Pressure Drop = 6" - 12"    Liquid Flow Rate = greater than 40 gpm

SME 011a - Secondary Gas System (2 scrubbers):

Pressure Drop= 3.5-12 (across both scrubbers combined)    Liquid Flow Rate= greater than 4800 gpm (each)

SME 011e - Rotary Dryer Scrubber:

Pressure Drop = 6.25 - 19.25    Liquid Flow Rate = greater than 7360 gpm

SME 011h1 - Anode Refining Furnaces Scrubber:

Pressure Drop = 25 - 50.5 Liquid Flow Rate = greater than 2000 gpm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.1.j.1

**Monitoring:**

The permittee shall make at least one pressure drop and one liquid flow observation per day for each operating scrubber listed above. The pressure drop reading shall be made to the nearest 1/4 inch W.G. and the liquid flow accurate to +/- 10% of design flow. The observation shall be made during typical operating conditions. The instrument(s) shall be calibrated in accordance with manufacturer's instructions. Additionally, the pressure drop and liquid flow rate for each scrubber shall be observed and recorded at the time of any compliance stack testing. If the pressure drop or liquid flow rate deviates from the listed ranges the permittee shall immediately investigate the cause and initiate corrective action to return the scrubber to proper operating parameters. If the pressure drop or the liquid flow rate remains out of range for greater than 48 hours from the initial deviation reading it shall be considered a deviation from this permit term.

II.B.1.j.2

**Recordkeeping:**

An operators log or computer recording shall be maintained of all monitoring provisions listed above. The records shall contain all applicable information as required by section I.S.1 of this permit.

II.B.1.j.3

**Reporting:**

Deviations from this condition shall be considered to be promptly reported if reported on a calendar quarter basis and in accordance with Provision I.S.2 of this permit. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.k

**Condition:**

Pressure drops for each baghouse listed below shall be maintained within the given ranges. (All pressure drop readings in inches Water Gauge)

SME 001 -Filter Plant Wet Feed Conveyor Baghouse:

Pressure Drop = 0.5 - 4

SME 002 - Wet Feed Storage Building Baghouse:

Pressure Drop = 1.5 - 5

SME 003 - Wet Feed Conveyor Belt Transfer Point Baghouse:

Pressure Drop = 0.5 - 5.25

SME 004 - Wet Feed Bin(s) Baghouse:

Pressure Drop = 2.75 - 5

SME 005 - Flash Smelting Furnace Dry Feed Bin Baghouse:

Pressure Drop = 0.25 - 6

SME 006 - Limestone Flux Bin Baghouse:

Pressure Drop = 0.5 - 4

SME 011a - Secondary Gas Handling System Baghouse:

Pressure Drop = 6 - 11

SME 011g - Matte Drying and Grinding Plant Baghouse:

Pressure Drop = 5 - 13

SME 013 - Dry Matte Bin Baghouse:

Pressure Drop = 0.5 - 4

SME 011h1 - Anode Refining Furnace Baghouse:

Pressure Drop = 1-9

SME 011h2 - Anode Shaft Furnace Baghouse:

Pressure Drop = 1-8

SME 015 - Mold Coating (Barite) Bin Baghouse:

Pressure Drop = 0.5 - 4

SME 017 - Vacuum Cleaning Systems (3 Baghouses):

Pressure Drop = 0.25 - 6 (each)

SME 019 - Hydrometallurgical Plant Limestone Storage Bin Baghouse:

Pressure Drop = 0.5 - 4

SME 020 - Hydrometallurgical Plant Lime Storage Bin Baghouse:

Pressure Drop = 0.5 - 4

SME 027 - Recycle Materials Crushing and Storage Building Baghouse:

Pressure Drop = 1 - 5. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

#### II.B.1.k.1

##### **Monitoring:**

The permittee shall make at least one pressure drop observation per day, for each operating baghouse listed above. The pressure drop reading shall be made to the nearest 1/4 inch W.G. The observation shall be made during typical operating conditions. Additionally, the pressure drop across each baghouse shall be observed and recorded at the time of any compliance stack testing. If the pressure drop deviates from the listed ranges the permittee shall immediately investigate the cause and initiate corrective action to return the baghouse to proper operating parameters. If the pressure drop remains out of range for greater than 48 hours from the initial deviation reading it shall be considered a deviation from this permit term.

#### II.B.1.k.2

##### **Recordkeeping:**

An operators log or computer recording shall be maintained of all monitoring provisions listed above. The records shall contain all applicable information as required by section I.S.1 of this permit.

II.B.1.k.3

**Reporting:**

Deviations from this condition shall be considered to be promptly reported if reported on a calendar quarter basis and in accordance with Provision I.S.2 of this permit. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.l

**Condition:**

The permittee shall maintain an Emergency Episode Plan outlining the procedures that will be taken in the event of an emergency episode as outlined in R307-1-5. The plan shall identify what control/production measures shall be implemented when an emergency episode is declared. Specific control/production measures shall be outlined for all three levels (Alert, Warning, Emergency). The plan shall be submitted and approved by the Executive Secretary within 60 days of the issue date of this permit, unless a previously submitted and approved plan is available. [Authority granted under R307-105-2 / R307-110-8; condition originated in DAQE-836-00]

II.B.1.l.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.1.l.2

**Recordkeeping:**

A copy of the approved Emergency Episode Plan shall be made available to the Executive Secretary upon request.

II.B.1.l.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.m

**Condition:**

Any open storage pile(s) shall be watered, covered, or chemically treated to minimize generation of fugitive dusts, as dry conditions warrant or as determined necessary by the executive secretary. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.1.m.1

**Monitoring:**

Visual inspections of any open storage pile(s) shall be made on a daily basis to ensure minimization of fugitive dust generation by proper water spray. Any storage pile that has been covered or chemically treated to minimize fugitive dust generation shall be visually inspected on a monthly basis to ensure covers are properly in place and/or chemical treatments are working properly.

II.B.1.m.2

**Recordkeeping:**

Records of inspections shall be maintained as described in I.S.1 of this permit.

II.B.1.m.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.n

**Condition:**

The permittee shall operate and maintain an upwind/downwind fugitive SO<sub>2</sub> monitoring system. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.1.n.1

**Monitoring:**

The permittee shall monitor the output of the fugitive upwind/downwind SO<sub>2</sub> monitoring system on a daily basis to ensure that no high levels of SO<sub>2</sub> have passed over the monitors. The daily monitoring will not be required if the system is equipped with an alarm system to notify personnel when high levels of SO<sub>2</sub> have passed over the monitors. The monitoring system shall be calibrated in accordance with the manufacturers recommendations.

II.B.1.n.2

**Recordkeeping:**

Continuous recording of the monitoring device(s) is not required for systems equipped with an alarm. Records of all alarm events and the corrective action taken shall be maintained as described in Provision I.S.1 of this permit.

II.B.1.n.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.2

**Conditions on Filter Plant Wet Feed Conveyor (Stack 1) (Emission unit #SME 001)**

II.B.2.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.7 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 4,500 dscfm (90% of 5,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.2.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the

drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

II.B.2.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.2.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.2.b

**Condition:**

Visible emissions shall be no greater than 7 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.2.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.2.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.2.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.3

**Conditions on Wet Feed Storage Building (Stack 2) (Emission unit #SME 002)**

II.B.3.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 7.8 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 51,300 dscfm (90% of 57,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.3.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors

determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

II.B.3.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.3.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.3.b

**Condition:**

Visible emissions shall be no greater than 7 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.3.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.3.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.3.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.4

**Conditions on Wet Feed Conveyor Transfer Point (Stack 3) (Emission unit #SME 003)**

II.B.4.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.4 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 2,700 dscfm (90% of 3,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

#### II.B.4.a.1

#### **Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

#### II.B.4.a.2

#### **Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.4.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.4.b

**Condition:**

Visible emissions shall be no greater than 7 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.4.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.4.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.4.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.5

**Conditions on Wet Feed Bins (Stack 4) (Emission unit #SME 004)**

II.B.5.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 3.4 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 22,500 dscfm (90% of 25,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.5.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered  $PM_{10}$ .

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

II.B.5.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.5.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.5.b

**Condition:**

Visible emissions shall be no greater than 7 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.5.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified

visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.5.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.5.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.6

**Conditions on Flash Smelting Furnace Dry Feed Bin (Stack 5) (Emission unit #SME 005)**

II.B.6.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 1.2 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 8,100 dscfm (90% of 9,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.6.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be

tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

II.B.6.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.6.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.6.b

**Condition:**

Visible emissions shall be no greater than 7 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.6.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.6.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.6.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.7

**Conditions on Rotary Dryer (Emission unit #SME 011e)**

II.B.7.a

**Condition:**

Emissions of TSP shall be no greater than 0.022 grains/dscf. [Authority granted under 40 CFR 60 (Subpart P); condition originated in DAQE-836-00]

II.B.7.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested annually. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) Sample Method - 40 CFR 60, Appendix A, Method 5 shall be used to determine the particulate matter concentration and the volumetric flow rate of the effluent gas. The minimum sample time and sample volume shall be 60 minutes and 0.85 dscm (30.0 dscf).

(d) Calculations: To determine mass emission rates (lb./hr., etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.7.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.7.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.7.b

**Condition:**

Opacity shall be no greater than 15 percent. [Authority granted under 40 CFR 60 (Subpart P); condition originated in DAQE-836-00]

II.B.7.b.1

**Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the opacity of emissions in accordance with R307-170, UAC and 40 CFR 60, Appendix B, Specification 1 - Opacity, and shall record the output of the system. The output shall be reviewed at least monthly for compliance with the opacity limit; compliance is to be based on the percent opacity averaged over six consecutive minutes.

II.B.7.b.2

**Recordkeeping:**

Results of opacity measurements shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit.

II.B.7.b.3

**Reporting:**

Reports shall be submitted as outlined in R307-170 and Provision I.S.1 of this permit.

II.B.8

**Conditions on Slag Concentrator (Emission unit #SME SLAG)**

II.B.8.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity from the slag concentrator bin and slag crushing & grinding transfer points. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.8.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.8.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.8.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.8.b

**Condition:**

Emissions from the slag concentrator bin shall be controlled with water sprays at all times of operation. The water sprays shall be of sufficient coverage and volume to meet the opacity limitations of this condition. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.8.b.1

**Monitoring:**

Visual inspections of the water spray system(s) shall be made weekly to ensure proper operating condition.

II.B.8.b.2

**Recordkeeping:**

A record of required inspections shall be maintained in accordance with Provision S.1 in Section I of this permit.

II.B.8.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.9

**Conditions on Smelter Limestone Flux Bin (Stack 6) (Emission unit #SME 006)**

II.B.9.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.3 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 1,800 dscfm (90% of 2,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.9.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary. If the unit is not operational when a stack test is due, it shall be tested within six months of resumed operation.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be

tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual conditions.

II.B.9.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.9.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.9.b

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.9.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.9.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.9.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10

**Conditions on Dry Matte Bin (Stack 13) (Emission unit #SME 013)**

II.B.10.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.3 lbs/hour and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 1,800 dscfm (90% of 2,000 dscfm) exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.10.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered PM<sub>10</sub>.

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume

listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual operations.

II.B.10.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.10.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.10.b

**Condition:**

Visible emissions shall be no greater than 10 percent opacity from the baghouse. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.10.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.10.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.10.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.11

**Conditions on Flash Smelting & Converting Combined (Emission unit #SME FSF/FCF)**

II.B.11.a

**Condition:**

All gases produced during smelting and/or converting which enter the primary gas handling system shall pass through an online sulfuric acid plant, except that during the startup and/or shutdown process of any equipment, the gas emissions shall be ducted as necessary, either to the acid plant or to the secondary gas system for control. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.11.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.11.a.2

**Recordkeeping:**

A log shall be kept of any time the gases produced during smelting and/or converting are not passed through an online sulfuric acid plant. An additional log shall be kept and include the dates, times and durations of all times any gases from smelting and/or converting bypass both the acid plant and the secondary gas system.

II.B.11.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.12

**Conditions on Secondary Gas System Lime Silo (Stack 29) (Emission unit #SME 029)**

II.B.12.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.12.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.12.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.12.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.13

**Conditions on Anode Area Lime Silo (Stack 28) (Emission unit #SME 028)**

II.B.13.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.13.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.13.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.13.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14

**Conditions on Mold Coating (Barite) Bin (Stack 15) (Emission unit #SME 015)**

II.B.14.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.14.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.14.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.15

**Conditions on Acid Plant Preheater (Stack 8) (Emission unit #SME 008)**

II.B.15.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.15.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed once each day the unit is operational by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

- II.B.15.a.2                   **Recordkeeping:**  
Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.
- II.B.15.a.3                   **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.15.b                   **Condition:**  
Consumption of natural gas shall be no greater than 65 MM ncf per 12 month period. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]
- II.B.15.b.1                   **Monitoring:**  
Consumption shall be determined within the first 25 calendar days of each month, for the previous month, using totalizer metering. The total shall then be added to the previous 11 months total for a 12 month rolling total. Any adjustments to the total shall be fully explained and justified.
- II.B.15.b.2                   **Recordkeeping:**  
Gas meter readings shall be recorded on a monthly basis for the previous month, and shall be maintained as described in Provision I.S of this permit.
- II.B.15.b.3                   **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.16                   **Conditions on Acid Plant (Emission unit #SME 011b)**
- II.B.16.a                   **Condition:**  
Emissions of SO<sub>2</sub> shall be no greater than 250 ppmdv based on a 6 hour block average, 170 ppmdv based on a 24 hour calendar day average, and 100 ppmdv based on an annual average. [Authority granted under R307-401-6(1) [BACT] & 40 CFR 60 (Subpart P); condition originated in DAQE-836-00]
- II.B.16.a.1                   **Monitoring:**  
The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the emissions of sulfur dioxide (SO<sub>2</sub>) concentration in accordance with UAC R307-170 and 40 CFR 60, Appendix B, Specification 2 - SO<sub>2</sub>.
- II.B.16.a.2                   **Recordkeeping:**  
Results of SO<sub>2</sub> monitoring shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit.
- II.B.16.a.3                   **Reporting:**  
Reports shall be submitted as outlined in R307-170 and Provision I.S.1 of this permit.

II.B.16.b

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.67 mg/scf. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.16.b.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The SO<sub>2</sub> input to the acid plant during all compliance testing shall be no less than 90% of the design SO<sub>2</sub> input.

II.B.16.b.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.16.b.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.16.c

**Condition:**

Opacity shall be no greater than 15 percent. [Authority granted under R307-401-6(1) [BACT] & 40 CFR 60 (Subpart P); condition originated in DAQE-836-00]

II.B.16.c.1

**Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the opacity of emissions in accordance with R307-170, UAC and 40 CFR 60, Appendix B, Specification 1 - Opacity, and shall record the output of the system. The output shall be reviewed at least monthly for compliance with the opacity limit; compliance is to be based on the percent opacity averaged over six consecutive minutes.

II.B.16.c.2

**Recordkeeping:**

Results of opacity measurements shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit.

II.B.16.c.3

**Reporting:**

Reports shall be submitted as outlined in R307-170 and Provision I.S.1 of this permit.

II.B.17

**Conditions on Hydrometallurgical Plant Limestone Bin (Stack 19) (Emission unit #SME 019)**

II.B.17.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.17.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.17.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.17.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.18

**Conditions on Hydrometallurgical Plant Lime Bin (Stack 20) (Emission unit #SME 020)**

II.B.18.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.18.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.18.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.18.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.19

**Conditions on Powerhouse Superheater & Foster Wheeler Boiler (Emission unit #SME 011f)**

II.B.19.a

**Condition:**

The permittee shall keep daily records of the amounts of each fuel combusted each day, for each boiler. [Authority granted under 40 CFR 60.48c(g) (Subpart Dc); condition originated in DAQE-836-00]

II.B.19.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.19.a.2

**Recordkeeping:**

Records of gas meter readings shall be kept on a daily basis and shall be maintained as described in Provision I.S of this permit.

II.B.19.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.20

**Conditions on Powerhouse Holman Boiler (Stack 26) (Emission unit #SME 026)**

II.B.20.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.20.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.20.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.20.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.20.b

**Condition:**

Emissions of NO<sub>x</sub> shall be no greater than 9.34 lbs/hour (30-day average), and no greater than 0.05 lbs/MM Btu heat input (30-day average). [Authority granted under R307-401-6(1) [BACT] and 40 CFR 60 (Subpart Db); condition originated in DAQE-836-00 and 40 CFR 60 (Subpart Db)]

II.B.20.b.1

**Monitoring:**

For monitoring the Holman boiler NO<sub>x</sub> limit, either a CEM or the alternate monitoring plan as submitted to the Executive Secretary on December 4, 1998 shall be used.

**CEM:**

The permittee shall calibrate, maintain, and operate a continuous monitoring system for measuring the emissions of nitrogen oxides (NO<sub>x</sub>) discharged to the atmosphere in accordance with the monitoring provisions of 40 CFR 60.46b.

The CEM shall be maintained and operated in accordance with UAC R307-170.

**Alternate Monitoring Plan:**

The permittee shall continuously monitor the Holman boiler fuel use, Holman boiler exhaust gas oxygen concentration, and Holman boiler steam output (used to estimate heat input if fuel use is unavailable) to predict NO<sub>x</sub> emissions from the Holman boiler. In addition, the position of the flue gas recirculation damper shall not be closed any further than four (4) ticks or notches from the bottom (the position used during the 30-day CEM test) without prior approval and an additional 30-day CEM test. (30 day test via certified NO<sub>x</sub> CEM as per 40 CFR 60.46b(e) NSPS Subpart Db) If the 30-day average exhaust gas oxygen concentration exceeds 3.3% (the maximum value during the initial 30-day CEM test), an additional 30-day CEM test (30 day test via certified NO<sub>x</sub> CEM as per 40 CFR 60.46b(e) NSPS Subpart Db) shall be performed. The permittee shall calculate the 30-day average NO<sub>x</sub> emissions from the Holman boiler on a daily basis using hourly data using the following predictive equations, or new predictive equations based upon data from any additional 30-day CEM test and approved by the Executive Secretary:

A. For heat input values equal to or greater than 45 MMBtu per hour:

$$y = 0.0002x^2 + 0.0101x + 0.8985$$

$$z = y/x$$

Where:

$$z = \text{NO}_x \text{ emissions (lbs. per MMBtu)}$$

y = NO<sub>x</sub> emissions (lbs. per hour)  
x = one hour average heat input (MMBtu per hour)

B. For heat input values less than 45 MMBtu per hour:

$$y = 0.0379x$$

$$z = y/x$$

Where:

z = NO<sub>x</sub> emissions (lbs. per MMBtu)  
y = NO<sub>x</sub> emissions (lbs. per hour)  
x = one hour average heat input (MMBtu per hour)

The permittee shall maintain a rolling 30-day average for calculated NO<sub>x</sub> emissions using 30 consecutive days of hourly data and a rolling 30-day average for exhaust gas oxygen concentrations. (origin: Dec. 4, 1998 Correspondence - DAQC-1919-98 (1.))

## II.B.20.b.2

### **Recordkeeping:**

For records concerning the Holman boiler NO<sub>x</sub> limit, either a CEM or the alternate monitoring plan as submitted to the Executive Secretary on December 4, 1998 shall be used.

CEM:

Results of NO<sub>x</sub> monitoring shall be recorded and maintained as required in R307-170, 40 CFR 60.49b, and as described in Provision I.S.1. of this permit.

Alternate Monitoring Plan:

The permittee shall maintain records of the following information for the Holman boiler for each operating day:

- 1) Calendar Date.
- 2) Quantity of each type of fuel used.
- 3) Steam output.
- 4) Exhaust gas oxygen concentration.
- 5) Average hourly nitrogen oxides emission rates (lbs/hour and lb/MMBtu heat input) as calculated.
- 6) The 30-day average nitrogen oxides emission rates (lbs/hour and lb/MMBtu heat input) calculated at the end of each Holman boiler operating day from the predicted hourly nitrogen oxides emission rates for the preceding 30 Holman boiler operating days.
- 7) Identification of the Holman boiler operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emission standards, with the reasons for such excess emissions as well as a description of corrective actions taken.
- 8) Identification of the Holman boiler operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.
- 9) Identification of the times when emission data have been excluded from the calculations of average emission rates and the reasons for excluding data. (origin: December 4, 1998 Correspondence - DAQC-1919-98 (2.))

Permittee shall document all boiler tests and their results. Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.20.b.3

**Reporting:**

For reporting concerning the Holman boiler NO<sub>x</sub> limit, either a CEM or the alternate monitoring plan as submitted to the Executive Secretary on December 4, 1998 shall be used.

**CEM:**

NO<sub>x</sub> monitoring reports shall be submitted as required in R307-170 and as described in Provision I.S.2. Of this permit.

**Alternate Monitoring Plan:**

In conjunction with monthly smelter emissions reporting required under unit SME-011(b) of this permit, the permittee shall submit a report of each day in which the 30-day average NO<sub>x</sub> emissions limit of 9.34 lbs/hr was exceeded at the Holman boiler. Additionally, a statement shall be included to indicate if data recovery met a minimum of 75% of the operating hours in each Holman boiler operating day, in at least 22 of 30 successive Holman boiler operating days. The monthly report shall also include information on the number of days in which the 30-day average exhaust gas oxygen concentration exceeded 3.3% during the month, and whether the flue gas recirculation damper was moved. (origin: December 4, 1998 Correspondence - DAQC-1919-98 (3.))

Results of additional 30 day CEM tests (30 day test via certified NO<sub>x</sub> CEM as per 40 CFR 60.46b(e) NSPS Subpart Db) shall be submitted to DAQ within 60 days of the completion of the test.

II.B.21

**Conditions on Main Stack (Stack 11) (Emission unit #SME 011)**

II.B.21.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 89.5 lbs/hour (24 hour average). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.21.a.1

**Monitoring:**

A.) The permittee shall calibrate, maintain and operate a system to continuously measure emissions of particulate matter from the main stack. For purposes of determining compliance with the emission limit, all particulate matter collected shall be reported as PM<sub>10</sub>. Compliance with the main stack emission limit for PM<sub>10</sub> shall be demonstrated using the smelter main stack continuous particulate sampling system to provide a 24-hour value. The permittee may petition the Air Quality Board at any time to discontinue the operation of the continuous monitor. An analysis of the potential PM<sub>10</sub> uncontrolled emissions from the main stack shall be submitted to the Executive Secretary at the time of such a petition.

B.) Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested annually. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of

the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered  $PM_{10}$ .

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.21.a.2

**Recordkeeping:**

A.) Results of  $PM_{10}$  monitoring shall provide a 24-hour value. The results shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit. Collected data shall be made available for inspection on a daily basis.

B.) Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1. In Section I of this permit.

II.B.21.a.3

**Reporting:**

A.) A summary of the 24-hour averages shall be submitted to the Executive Secretary by the 20th day of each month for the previous month.

B.) The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no

additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.21.b

**Condition:**

Emissions of SO<sub>2</sub> shall be no greater than 552 lbs/hour based on a 3 hour average, 422 lbs/hour based on a 24 hour calendar day average, and 211 lbs/hour based on an annual average. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.21.b.1

**Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the emissions of sulfur dioxide (SO<sub>2</sub>) discharged to the atmosphere and stack gas volumetric flow rates in accordance with UAC R307-170 including the requirements for annual Relative Accuracy Test Audits and quarterly Relative Accuracy Audits or Cylinder Gas Audits. The required Relative Accuracy Test Audits, Relative Accuracy Audits, and Cylinder Gas Audits shall be conducted following procedures contained in Appendix B, Specification 2, Part 60, Title 40, CFR and Appendix F, Part 60, Title 40, CFR. Acceptable methods for the annual Relative Accuracy Test Audits include 40 CFR 60, Appendix A, reference methods 6 or 6c. The permittee shall perform Appendix E, Part 52, Title 40, CFR Performance Specification procedures on the stack gas flow rate measurement system, if directed by the Executive Secretary, in the event that the results of the quarterly and annual tests required above demonstrate that the SO<sub>2</sub> monitoring system is not performing properly. The permittee shall measure at least 95 percent of the hours during which emissions occurred in any month. Failure to measure any 18 consecutive hours of emissions data shall constitute a violation. Any hour for which the measurements comply with R307-170 UAC shall be considered as measured. Calibration shall be performed once per day and the hours during which calibration is performed shall be considered as measured if at least 40 minutes of data are measured for each of those hours. Any hours for which the emissions data are greater than 20 percent in error will be considered to have not been measured. During periods of malfunction or maintenance of the stack gas temperature and velocity measurement instrumentation, the permittee may estimate stack gas flow rate. These estimates will be considered as measurements. No more than 10 percent of the flow rates in any one month shall be estimated.

II.B.21.b.2

**Recordkeeping:**

Results of SO<sub>2</sub> measurements shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit. The permittee shall express the measurements as pounds of SO<sub>2</sub> emitted per hour calculated at the end of each day for the preceding 24 hours, and calculated at the end of each hour for the preceding 3-hour period. Additionally, the following data shall also be recorded: The total number of hourly periods during the month in which measurements were not taken; the reason for measurement loss in each period greater than three continuous hours of loss; the dates and number of exceedances on which the 3 and 24 hour emissions averages exceeded the applicable emission level; and all conversion values used to derive the 3 and 24 hour average emissions for SO<sub>2</sub>, including temperature and differential pressure of stack gases.

II.B.21.b.3

**Reporting:**

Results of each measurement or monitoring system and reports evaluating the performance of such systems shall be summarized and shall be submitted to the Executive Secretary within 20 days after the end of each month. All audit and accuracy test results shall be submitted to the Executive Secretary within 60 days after the audit or accuracy test is completed. Calculations used to derive the estimated flow rates and a list of the periods where stack gas flow rate was estimated in each month shall be submitted with the monthly data reports. Data, reports, or results required to be submitted to the Executive Secretary shall be deemed to be verified and accepted as valid and not subject to challenge and shall be used by the Executive Secretary and the Utah Air Quality Board in determining compliance with the main smelter stack SO<sub>2</sub> emission limits, unless, within 30 days of the time of submittal the permittee or the Executive Secretary provides evidence that the data, results, or reports or any part thereof, are greater than 20 percent in error. Any additional reporting required by R307-170 and Provision I.S.1 of this permit shall also be met.

II.B.21.c

**Condition:**

Opacity shall be no greater than 20 percent. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.21.c.1

**Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the opacity of emissions in accordance with R307-170, UAC and 40 CFR 60, Appendix B, Specification 1 - Opacity, and shall record the output of the system. The output shall be reviewed at least monthly for compliance with the opacity limit; compliance is to be based on the percent opacity averaged over six consecutive minutes.

II.B.21.c.2

**Recordkeeping:**

Results of opacity measurements shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit.

II.B.21.c.3

**Reporting:**

Reports shall be submitted as outlined in R307-170 and Provision I.S.1 of this permit.

II.B.21.d

**Condition:**

Emissions of Lead shall be no greater than 1.3 lbs/hour (annual average). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.21.d.1

**Monitoring:**

Kennecott Utah Copper Corp. shall determine the 12-month average lead emissions from the main stack on a monthly basis, using the main stack particulate data and laboratory analysis of the material collected by the stack particulate sampler. KUC submitted a monitoring plan to the Executive Secretary for approval on October 10, 2000. Upon approval by the Executive Secretary, KUC shall monitor in accordance with the approved plan.

II.B.21.d.2

**Recordkeeping:**

KUC shall keep appropriate records of the particulate sampling at the main stack and laboratory analysis of the lead in the particulate, as outlined in the monitoring plan.

II.B.21.d.3

**Reporting:**

The permittee shall report as specified in the monitoring plan and as specified in Section I of this permit.

II.B.21.e

**Condition:**

Emissions of NO<sub>x</sub> shall be no greater than 35 lbs/hour (annual average). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.21.e.1

**Monitoring:**

The permittee shall calibrate, maintain and operate a continuous monitoring system for measuring the emissions of NO<sub>x</sub> discharged to the atmosphere and stack gas volumetric flow rates in accordance with UAC R307-170 including the requirements for annual Relative Accuracy Test Audits and quarterly Relative Accuracy Audits or Cylinder Gas Audits. The monitoring system shall comply with all applicable sections of R307-170, UAC and 40 CFR 60, Appendix B, Specification 2 - Oxides of Nitrogen. The required Relative Accuracy Test Audits, Relative Accuracy Audits, and Cylinder Gas Audits shall be conducted following procedures contained in Appendix B, Specification 2, Part 60, Title 40, CFR and Appendix F, Part 60, Title 40, CFR. Acceptable methods for the annual Relative Accuracy Test Audits include 40 CFR 60, Appendix A, reference method 7 or 7E. The permittee shall perform Appendix E, Part 52, Title 40, CFR Performance Specification procedures on the stack gas flow rate measurement system, if directed by the Executive Secretary, in the event that the results of the quarterly and annual tests required above demonstrate that the NO<sub>x</sub> monitoring system is not performing properly. During periods of malfunction or maintenance of the stack gas temperature and velocity measurement instrumentation, the permittee may estimate stack gas flow rate. These estimates will be considered as measurements. No more than 10 percent of the flow rates in any one month shall be estimated.

II.B.21.e.2

**Recordkeeping:**

Results of NO<sub>x</sub> measurements shall be recorded and maintained as required in R307-170 and as described in Provision I.S.1 of this permit. The permittee shall record the output of the systems, for measuring the NO<sub>x</sub> emissions on the main stack. Measurement results shall be expressed as pounds of NO<sub>x</sub> emitted per hour calculated at the end of each calendar day for the preceding 24 hours. Each month the annual average shall be calculated from the daily averages from the preceding 12-month period. Additionally, the following data shall also be recorded: The total number of hourly periods during the month in which measurements were not taken; the reason for measurement loss in each period greater than three continuous hours of loss; the date on which the annual emissions average based on hourly emissions exceeded the applicable emissions level for the month being reported, and all conversion values used to derive the 24 hour average and annual average for NO<sub>x</sub> including temperature and differential pressure of stack gases.

II.B.21.e.3

**Reporting:**

Results of each measurement or monitoring system and reports evaluating the performance of such systems shall be summarized and shall be submitted to the Executive Secretary within 20 days after the end of each month. Within 20 days after the end of January 2001, the emissions in lbs/hr averaged over the 8-month period of June 2000-January 2001 shall be submitted to the Executive Secretary. Within 20 days after the end of February 2001, the emissions in lbs/hr averaged over the nine-month period of June 2000-February 2001 shall be submitted to the Executive Secretary. Each month thereafter the averaging period shall be one calendar month longer until June 2001. Beginning in June 2001, every month the owner/operator shall calculate the emissions in lbs/hr averaged over the previous 12 calendar months and shall submit the emissions to the Executive Secretary by the twentieth day of each month using data from the previous 12 months. All audit and accuracy test results shall be submitted to the Executive Secretary within 60 days after the audit or accuracy test is completed. Calculations used to derive the estimated flow rates and a list of the periods where stack gas flow rate was estimated in each month shall be submitted with the monthly data reports. Data, reports, or results required to be submitted to the Executive Secretary shall be deemed to be verified and accepted as valid and not subject to challenge and shall be used by the Executive Secretary and the Utah Air Quality Board in determining compliance with the main smelter stack NO<sub>x</sub> emission limits, unless, within 30 days of the time of submittal the permittee or the Executive Secretary provides evidence that the data, results, or reports or any part thereof, are greater than 20 percent in error. Any additional reporting required by R307-170 and Provision I.S.1 of this permit shall also be met.

II.B.22

**Conditions on Recycle Crushing and Storage Building (Stack 27) (Emission unit #SME 027)**

II.B.22.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.22.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.22.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.22.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.23      **Conditions on Natural Gas Consumption Group 1 (Emission unit #SME NG1)**

II.B.23.a      **Condition:**

Consumption of natural gas shall be no greater than 1997 MM ncf per 12 month period.  
[Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.23.a.1      **Monitoring:**

Consumption shall be determined within the first 25 calendar days of each month, for the previous month, using totalizer metering. The total shall then be added to the previous 11 months total for a 12 month rolling total. Any adjustments to the total shall be fully explained and justified.

II.B.23.a.2      **Recordkeeping:**

Gas meter readings shall be recorded on a monthly basis for the previous month, and shall be maintained as described in Provision I.S of this permit.

II.B.23.a.3      **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.24      **Conditions on Natural Gas Consumption Group 2 (Emission unit #SME NG2)**

II.B.24.a      **Condition:**

Consumption of natural gas shall be no greater than 1700 MM ncf per 12 month period.  
[Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.24.a.1      **Monitoring:**

Consumption shall be determined within the first 25 calendar days of each month, for the previous month, using totalizer metering. The total shall then be added to the previous 11 months total for a 12 month rolling total. Any adjustments to the total shall be fully explained and justified.

II.B.24.a.2      **Recordkeeping:**

Gas meter readings shall be recorded on a monthly basis for the previous month, and shall be maintained as described in Provision I.S of this permit.

II.B.24.a.3      **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.25      **Conditions on Smelter Laboratory Sample Preparation (Stack 22) (Emission unit #SME 022)**

II.B.25.a      **Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.25.a.1      **Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified

visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.25.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.25.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.26

**Conditions on Smelter Carpentry Shop (Stack 23) (Emission unit #SME 023)**

II.B.26.a

**Condition:**

Visible emissions shall be no greater than 20 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.26.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed once each month that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.26.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.26.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.27

**Conditions on Vacuum Cleaning Systems (Stacks 17a, 17b, 17c) (Emission unit #SME 017a, b, c)**

II.B.27.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.7 lbs/hour combined and 0.016 grains/dscfm, and stack testing shall be conducted at no less than 4,500 dscfm (90% of 5,000 dscfm) exhaust volume combined. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.27.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary. If the unit is not operational when a stack test is due, it shall be tested within six months of resumed operation.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered  $PM_{10}$ .

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing: Stack testing shall be performed during representative operations to include testing at no less than the exhaust volume listed within the condition above. If these conditions cannot be met, the permittee shall propose in the test protocol, stack test conditions and retest thresholds to assure that stack testing is representative of actual conditions.

#### II.B.27.a.2

#### **Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.27.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.27.b

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-836-00]

II.B.27.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed once each week that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.27.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.27.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.28

**Conditions on Smelter Unleaded Gasoline Storage Tank (Emission unit #SME SA-1)**

II.B.28.a

**Condition:**

The permittee shall maintain records of the average monthly storage temperature, the type of liquid, throughput quantities, and the maximum true vapor pressure. [Authority granted under R307-327-1(4); condition originated in R307-327-1(4)]

II.B.28.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.28.a.2

**Recordkeeping:**

The parameters listed above shall be recorded on a monthly basis and maintained as specified in provision I.S.1 of this permit

II.B.28.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.28.b

**Condition:**

At least 90 percent of the gasoline vapor, by weight, displaced during the filling of the stationary storage container shall be prevented from being released to the atmosphere. [Authority granted under R307-328-3; condition originated in R307-328-3]

II.B.28.b.1

**Monitoring:**

The 90 percent performance standard of the vapor control system shall be based on approved operating procedures and equipment specifications. (origin: R307-328-3)

II.B.28.b.2

**Recordkeeping:**

Records of the approved operating procedures and equipment specifications shall be maintained in accordance with provision I.S.1. of this permit. (origin: R307-328-3)

II.B.28.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.29

**Conditions on Smelter Cold Solvent Degreasers (Emission unit #SMEi210)**

II.B.29.a

**Condition:**

The permittee shall ensure that the following conditions are met:

(1) Each solvent degreaser is equipped with a cover which shall remain closed except during actual loading, unloading or handling of parts in cleaner. The cover shall be designed so that it can be easily operated with one hand if

- (a) the volatility of the solvent is greater than 2 kPa (15 mm Hg or 0.3 psi) measured at 38 degrees C (100 degrees F),
- (b) the solvent is agitated, or
- (c) the solvent is heated.

(2) An internal draining rack for cleaned parts shall be installed on which parts shall be drained until all dripping ceases. If the volatility of the solvent is greater than 4.3 kPa (32 mm Hg at 38 degrees C (100 degrees F)), the drainage facility must be internal, so that parts are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Waste or used solvent shall be stored in covered containers. Waste solvents or waste materials which contain solvents shall be disposed of by recycling, reclaiming, by incineration in an incinerator approved to process hazardous materials, or by an alternate means approved by the executive secretary.

(4) Tanks, containers and all associated equipment shall be maintained in good operating condition and leaks shall be repaired immediately or the degreaser shall be shutdown.

(5) Written procedures for the operation and maintenance of the degreasing or solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment.

(6) If the solvent volatility is greater than 4.3 kPa (33 mm Hg or 0.6 psi) measured at 38 degrees C (100 degrees F), or if solvent is heated above 50 degrees C (120 degrees F), then one of the following control devices shall be used:

- (a) freeboard that gives a freeboard ratio greater than 0.7;
- (b) water cover if the solvent is insoluble in and heavier than water;
- (c) other systems of equivalent control, such as a refrigerated chiller or carbon absorption.

(7) If used, the solvent spray shall be a solid fluid stream at a pressure which does not cause excessive splashing and may not be a fine, atomized or shower type spray. [Authority granted under R307-335-2; condition originated in R307-335-2]

- II.B.29.a.1                   **Monitoring:**  
Visual inspections shall be made monthly to determine compliance with this condition.
- II.B.29.a.2                   **Recordkeeping:**  
Results of monthly inspections and the volatility of the solvent(s) being used shall be recorded and maintained as described in Provision I.S.1 of this permit.
- II.B.29.a.3                   **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.30                    **Conditions on Smelter Powerhouse Emergency Generators (Emission unit #SME gen)**
- II.B.30.a                   **Condition:**  
Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-201-1(4); condition originated in R307-201-1(4)]
- II.B.30.a.1                   **Monitoring:**  
During any period that the emergency generator(s) is(are) operated for longer than 12 hours consecutively, visual observation(s) of each generator exhaust shall be made by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visual emissions observer (VEO). If any visible emissions are observed, then an opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, by a certified VEO. If the generator(s) continue to operate on consecutive days following the initial observation, an opacity determination shall be performed on a daily basis.
- II.B.30.a.2                   **Recordkeeping:**  
Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.
- II.B.30.a.3                   **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.31                    **Conditions on Refinery Operations (Emission unit #Refinery)**
- II.B.31.a                   **Condition:**  
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any permitted plant equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [Authority granted under R307-401-5; condition originated in DAQE-AN0346024-03]

- II.B.31.a.1                   **Monitoring:**  
Records required for this permit condition will serve as monitoring.
- II.B.31.a.2                   **Recordkeeping:**  
Permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with Provision I.S.1 of this permit.
- II.B.31.a.3                   **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.31.b                   **Condition:**  
The permittee shall comply with the applicable requirements for recycling and emission reduction for class I and class II refrigerants pursuant to 40 CFR 82, Subpart F - Recycling and Emissions Reduction. [Authority granted under 40 CFR 82.150(b); condition originated in 40 CFR 82]
- II.B.31.b.1                   **Monitoring:**  
The permittee shall certify, in the annual compliance statement required in Section I of this permit, its compliance status with the requirements of 40 CFR 82, Subpart F.
- II.B.31.b.2                   **Recordkeeping:**  
All records required in 40 CFR 82, Subpart F shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.
- II.B.31.b.3                   **Reporting:**  
All reports required in 40 CFR 82, Subpart F shall be submitted as required. There are no additional reporting requirements except as outlined in Section I of this permit.
- II.B.31.c                   **Condition:**  
Visible emissions shall be no greater than 20 percent opacity unless otherwise specified in this permit. [Authority granted under R307-201-1(2); condition originated in R307-201-1(2)]
- II.B.31.c.1                   **Monitoring:**  
A visual opacity survey of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. If visible emissions other than steam are observed from an emission unit, an opacity determination of that emission unit shall be performed by a certified observer within 24 hours of the initial survey. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 for point sources, and in accordance with 58 FR 61640 Method 203C for fugitive emission sources.
- II.B.31.c.2                   **Recordkeeping:**  
A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 40 CFR 60,

Appendix A, Method 9 or 58 FR 61640, Method 203C shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.31.c.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.d

**Condition:**

Sulfur content of diesel fuel consumed shall be no greater than 0.85 pounds sulfur per MM gross Btu heat input. [Authority granted under R307-401-6(1) [BACT], R307-203-1; condition originated in R307-203-1]

II.B.31.d.1

**Monitoring:**

Compliance with this limitation shall be determined either by testing each fuel delivery for the sulfur content or by inspection of the fuel sulfur-content specifications provided by the vendor in purchase records. Sulfur content in either instance shall be determined in accordance with ASTM-4294, or equivalent.

II.B.31.d.2

**Recordkeeping:**

Compliance with the above limitation shall be demonstrated by maintaining fuel receipt records showing sulfur content of the delivered fuel, gross heating value, and density or maintaining records of all sulfur content testing performed on the delivered fuel.

II.B.31.d.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.e

**Condition:**

Consumption of gaseous fuel shall be no greater than 1,664,400 dekatherms per rolling 12-month period for the total refinery combined. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.31.e.1

**Monitoring:**

Consumption shall be determined within the first 25 calendar days of each month, for the previous month, using heat input records and/or monthly vendor billing statements. Heat input records shall be determined by the BTU value of the gaseous fuel. The method used to determine the BTU value shall be approved by the Executive Secretary. The total shall then be added to the previous 11 months total for a 12-month rolling total. Any adjustments to the total shall be fully explained and justified.

II.B.31.e.2

**Recordkeeping:**

Records such as gas bills, gas meter readings and calculations, used to determine compliance with the gaseous fuel consumption limit shall be maintained as described in Provision I.S of this permit. If natural gas is not used, daily records of the BTU value of the gaseous fuel used shall be kept.

II.B.31.e.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.f

**Condition:**

All roads, permanent parking lots, and service yards directly servicing the permittee's approved constructed installations listed as emission units II.A.49. through II.A.67 shall be paved. Fugitive dust generated from these areas shall be limited to 20 percent opacity. Methods of control shall include, but not be limited to, sweeping and water flushing of the affected areas. [Authority granted under R307-205-3; condition originated in DAQE-AN0346024-03]

II.B.31.f.1

**Monitoring:**

A visual opacity survey of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. If visible emissions other than steam are observed from an emission unit, an opacity determination of that emission unit shall be performed by a certified observer within 24 hours of the initial survey. The opacity determination shall be performed in accordance with 58 FR 61640 Method 203C.

II.B.31.f.2

**Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 or 58 FR 61640, Method 203C shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.31.f.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.g

**Condition:**

Records shall be maintained of the material (salt, crushed slag, or sand) applied to the roads. [Authority granted under R307-307; condition originated in R307-307]

II.B.31.g.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.31.g.2

**Recordkeeping:**

The following records shall be maintained as outlined in Provision I.S.1 of this permit:

For Salt - the quantity applied, the percent by weight of insoluble solids in the salt, and the percentage of the material that is sodium chloride (NaCl).

For Sand or Crushed Slag - the quantity applied and the percent by weight of fine material which passes the number 200 sieve in a standard gradation analysis.  
(origin: R307-307)

II.B.31.g.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.h

**Condition:**

Pressure drops and liquid flow rates for each scrubber listed below shall be maintained within the given ranges. (All pressure drop readings in inches Water Gauge)

REF 006 - Hydrometallurgical Precious Metals Recovery Scrubber:

Pressure Drop = 5 - 15    Liquid Flow Rate = greater than 100 gpm

REF 007 - Hydrometallurgical Silver Production Scrubber:

Pressure Drop = 0.75 - 4    Liquid Flow Rate = greater than 60 gpm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.31.h.1

**Monitoring:**

The permittee shall make at least one pressure drop and one liquid flow observation per day for each operating scrubber listed above. The gas stream pressure drop reading shall be accurate to one inch W.G. and the scrubbing liquid flow rate shall be accurate to five (5) gallons per minute. The observation shall be made during typical operating conditions. The instrument(s) shall be calibrated according to the manufacturer's instruction at least semi-annually (every six months), except for those instruments that are sealed by the manufacturer and cannot be calibrated. The pressure drop and liquid flow rate for each scrubber shall be observed and recorded at the time of any compliance stack testing. If the pressure drop or liquid flow rate deviates from the listed ranges the permittee shall immediately investigate the cause and initiate corrective action to return the scrubber to proper operating parameters. If the pressure drop or the liquid flow rate remains out of range for greater than 48 hours from the initial deviation it shall be considered a deviation from this permit term.

II.B.31.h.2

**Recordkeeping:**

An operators log or computer recording shall be maintained of all monitoring provisions listed above. The records shall contain all applicable information as required by section I.S.1 of this permit.

II.B.31.h.3

**Reporting:**

Deviations from this condition shall be considered to be promptly reported if reported on a calendar quarter basis and in accordance with Provision I.S.2 of this permit. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.31.i

**Condition:**

The permittee shall maintain an Emergency Episode Plan outlining the procedures that will be taken in the event of an emergency episode as outlined in R307-105-2. The plan shall identify what control/production measures shall be implemented when an emergency episode is declared. Specific control/production measures shall be outlined for all three levels (Alert, Warning, Emergency). The plan shall be submitted and approved by the Executive Secretary within 60 days of the issue date of this permit,

unless a previously submitted and approved plan is available. [Authority granted under R307-105-2 / R307-110-8; condition originated in DAQE-AN0346024-03]

II.B.31.i.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.31.i.2

**Recordkeeping:**

A copy of the approved Emergency Episode Plan shall be made available to the Executive Secretary upon request.

II.B.31.i.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.32

**Conditions on Liberator (Emission unit #REF 001)**

II.B.32.a

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.004 grains/dscf and exhaust volume no greater than 13,500 dscfm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.32.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors

determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.32.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.32.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.32.b

**Condition:**

Visible emissions shall be no greater than 15 percent opacity from the demisters. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.32.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.32.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.32.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.33

**Conditions on Refine ry Boilers (Emission unit #REF 002/003)**

II.B.33.a

**Condition:**

The permittee shall keep daily records of the amounts of each fuel combusted each day, for each boiler. [Authority granted under 40 CFR 60.48c(g) (Subpart Dc); condition originated in 40 CFR 60.48c(g) (Subpart Dc)]

II.B.33.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.33.a.2

**Recordkeeping:**

Records of gas meter readings and, on days when oil is burned and oil tank sensor levels, shall be kept on a daily basis and shall be maintained as described in Provision I.S of this permit.

II.B.33.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.33.b

**Condition:**

The permittee shall use natural gas and/or landfill gas as a primary fuel and #2 fuel oil as back-up fuel. The #2 fuel oil shall only be used during periods of natural gas curtailment and during testing and maintenance periods. Natural gas curtailment is defined as any period when the natural gas provider/supplier imposes an interruption of service, and the curtailment is involuntary and beyond the control of the permittee. [Authority granted under R307-401-6(1)[BACT]; condition originated in DAQE-AN0346024-03]

II.B.33.b.1

**Monitoring:**

The backup fuel shall be monitored by use of level sensors in the tanks, which shall be observed following each use of backup fuel.

II.B.33.b.2

**Recordkeeping:**

The permittee shall maintain records that document the reason for backup fuel usage (i.e. natural gas curtailment, maintenance, etc.), date, and duration. All readings required to be taken shall be documented and maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.33.b.3

**Reporting:**

The permittee shall report operations of the boilers on backup fuel to the Executive Secretary within one working day of start-up. Emissions resulting from operation of the boilers on backup fuel shall be reported to the Executive Secretary within 30 days following the start of use of the backup fuel.

II.B.33.c

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT] and 40 CFR 60 (Subpart Dc); condition originated in DAQE-AN0346024-03]

II.B.33.c.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.33.c.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.33.c.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.33.d

**Condition:**

Emissions of NO<sub>x</sub> shall be no greater than 4.75 lbs/hour from each stack. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.33.d.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent stack test was performed. Additionally, if the permittee starts to use landfill gas as a fuel in firing the boilers, the boilers shall be tested on landfill gas as a fuel within 180 days after the landfill gas has been initially used as a fuel. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, or 7E shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Conditions During Testing. Stack testing shall be performed during representative operations, defined as 90% of the maximum firing rate for the burners. Boiler tests shall be conducted using the fuel(s) or fuel mixture representative of normal operations. The permittee shall submit for approval in the pretest protocol the fuel(s) to be used during the test.

II.B.33.d.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.33.d.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.33.e

**Condition:**

Emissions of CO shall be no greater than 3.0 lbs/hour from each stack. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.33.e.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent stack test was performed. Additionally, if the permittee starts to use landfill gas as a fuel in firing the boilers, the boilers shall be tested on landfill gas as a fuel within 180 days after the landfill gas has been initially used as a fuel. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Sample Point. The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(d) Methods.

(1) 40 CFR 60, Appendix A, Method 10 shall be used to determine CO emissions;

(2) 40 CFR 60, Appendix A, Method 2 shall be used to determine stack gas velocity and volumetric flow rate.

(e) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(f) Conditions During Testing. Stack testing shall be performed during representative operations, defined as 90% of the maximum firing rate for the burner(s). Boiler tests shall be conducted using the fuel(s) or fuel mixture representative of normal operations. The permittee shall submit for approval in the pretest protocol the fuel(s) to be used during the test.

II.B.33.e.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.33.e.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.33.f

**Condition:**

Sulfur content of fuel oil burned shall be no greater than 0.5 percent by weight. [Authority granted under R307-401-6(1)[BACT], 40 CFR 60.42c(d) Subpart Dc; condition originated in DAQE-AN0346024-03]

II.B.33.f.1

**Monitoring:**

Compliance with this limitation shall be determined either by testing each fuel delivery for the sulfur content or by inspection of the fuel sulfur-content specifications provided by the vendor in purchase records. Sulfur content in either instance shall be determined in accordance with ASTM-4294, or equivalent.

II.B.33.f.2

**Recordkeeping:**

Compliance with the above limitation shall be demonstrated by maintaining fuel receipt records showing sulfur content of the delivered fuel or maintaining records of all sulfur content testing performed on the delivered fuel.

II.B.33.f.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.34

**Conditions on Cathode Washing (Emission unit #REF 004)**

II.B.34.a

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.0008 grains/dscf and exhaust volume no greater than 17,000 dscfm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.34.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar

quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.34.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.34.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.34.b

**Condition:**

Visible emissions shall be no greater than 15 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.34.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an

opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.34.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.34.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.35

**Conditions on Anode Scrap Washing (Emission unit #REF 005)**

II.B.35.a

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.0008 grains/dscf and exhaust volume no greater than 3,000 dscfm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.35.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.35.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.35.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.35.b

**Condition:**

Visible emissions shall be no greater than 15 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.35.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.35.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.35.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.36

**Conditions on Hydrometallurgical Precious Metals Recovery (Emission unit #REF 006)**

II.B.36.a

**Condition:**

Emissions of SO<sub>2</sub> shall be no greater than 1.7 lbs/hour. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.36.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 6, 6A, 6B, or 6C shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.36.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.36.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.36.b

**Condition:**

Emissions of Lead shall be no greater than 0.02 lbs/hour. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.36.b.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 12 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.36.b.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.36.b.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.36.c

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.005 grains/dscf and exhaust volume no greater than 8,500 dscfm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.36.c.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar

quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.36.c.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.36.c.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.36.d

**Condition:**

Visible emissions shall be no greater than 15 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.36.d.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an

opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.36.d.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.36.d.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.36.e

**Condition:**

Emissions of Hydrochloric acid (Hydrogen chloride) shall be no greater than 0.003 grains/dscf and exhaust volume no greater than 8,500 dscfm. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.36.e.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 26 or 26A shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.36.e.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.36.e.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.37

**Conditions on Soda Ash Silo (Emission unit #REF 011)**

II.B.37.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity during silo loading operations. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.37.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a monthly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.37.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.37.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.38

**Conditions on Hydrometallurgical Silver Production (Emission unit #REF 007)**

II.B.38.a

**Condition:**

Visible emissions shall be no greater than 15 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.38.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an

opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.38.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.38.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.38.b

**Condition:**

Emissions of Sulfuric Acid shall be no greater than 0.009 grains/dscf and no greater than 2,900 dscfm exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.38.b.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) 40 CFR 60, Appendix A, Method 8 shall be used to determine the pollutant emission rate.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.38.b.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.38.b.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.38.c

**Condition:**

Emissions of Ammonia shall be no greater than 0.14 lbs/hour. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.38.c.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) An appropriate test method shall be used to determine the pollutant emission rate. The test method shall be submitted for approval prior to testing or may be assigned by the Executive Secretary.

(3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.38.c.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.38.c.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.39

**Conditions on Precious Metals Filter Presses (Emission unit #REF 008)**

II.B.39.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.39.a.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed once each week that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.39.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.39.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.40

**Conditions on Selenium Crushing and Packaging (Emission unit #REF 009)**

II.B.40.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.01 grains/dscf and no greater than 2,100 dscfm exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.40.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary. If the unit is not operational when a stack test is due, it shall be tested within six months of resumed operation.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered  $PM_{10}$ .

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing: The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.40.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.40.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no

additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.40.b

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.40.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed once each week that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.40.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.40.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.41

**Conditions on Gold/Silver Recovery (Emission unit #REF 010)**

II.B.41.a

**Condition:**

Emissions of PM<sub>10</sub> shall be no greater than 0.01 grains/dscf and no greater than 5,000 dscfm exhaust volume. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.41.a.1

**Monitoring:**

Stack testing shall be performed as specified below:

(a) Frequency. Emissions shall be tested every three years. Every three years means the test must be performed every third year and in the same calendar quarter in which the most recent test was performed. The source may also be tested at any time if directed by the Executive Secretary.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods.

(1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(2) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 may be used to measure condensible particulate matter.

(3) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured shall be considered  $PM_{10}$ .

(4) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.41.a.2

**Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.41.a.3

**Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.41.b

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0346024-03]

II.B.41.b.1

**Monitoring:**

A visual observation of each affected emission unit shall be performed on a weekly basis by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.41.b.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.41.b.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.42

**Conditions on Emergency Generator - Precious Metals (Emission unit #REFi 210)**

II.B.42.a

**Condition:**

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-201-1(4); condition originated in R307-201-1(4)]

II.B.42.a.1

**Monitoring:**

During any period that the emergency generator(s) is(are) operated for longer than 12 hours consecutively, visual observation(s) of each generator exhaust shall be made by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visual emissions observer (VEO). If any visible emissions are observed, then an opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, by a certified VEO. If the generator(s) continue to operate on consecutive days following the initial observation, an opacity determination shall be performed on a daily basis.

II.B.42.a.2

**Recordkeeping:**

Records of visual observations performed and data required by 40 CFR 60, Appendix A, Method 9 for each determination shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.42.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.43

**Conditions on Refinery Unleaded Gasoline Storage Tank (Emission unit #REF SA -1)**

II.B.43.a

**Condition:**

The permittee shall maintain records of the average monthly storage temperature, the type of liquid, throughput quantities, and the maximum true vapor pressure. [Authority granted under R307-327-1(4); condition originated in R307-327-1(4)]

II.B.43.a.1

**Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.43.a.2

**Recordkeeping:**

Records required for this permit condition shall be maintained in accordance with Provision I.S.1 of this permit.

- II.B.43.a.3                    **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.43.b                    **Condition:**  
At least 90 percent of the gasoline vapor, by weight, displaced during the filling of the stationary storage container shall be prevented from being released to the atmosphere. [Authority granted under R307-328-3; condition originated in R307-328-3]
- II.B.43.b.1                    **Monitoring:**  
The 90 percent performance standard of the vapor control system shall be based on approved operating procedures and equipment specifications. (origin: R307-328-3)
- II.B.43.b.2                    **Recordkeeping:**  
Records of the approved operating procedures and equipment specifications shall be maintained in accordance with provision I.S.1. of this permit. (origin: R307-328-3)
- II.B.43.b.3                    **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.44                    **Conditions on Refinery Volatile Organic Liquid Storage Tanks (Emission unit #REF VOL)**
- II.B.44.a                    **Condition:**  
The permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source. [Authority granted under 40 CFR 60.112b(b); condition originated in 40 CFR 60.116b (Subpart Kb)]
- II.B.44.a.1                    **Monitoring:**  
Records required for this permit condition will serve as monitoring.
- II.B.44.a.2                    **Recordkeeping:**  
A copy of the required records shall be maintained and made available to the Executive Secretary upon request.
- II.B.44.a.3                    **Reporting:**  
There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.45                    **Conditions on Refinery Cold Solvent Degreasers (Emission unit #REFi 201)**
- II.B.45.a                    **Condition:**  
The permittee shall ensure that the following conditions are met:  
    (1) Each solvent degreaser is equipped with a cover which shall remain closed except during actual loading, unloading or handling of parts in cleaner. The cover shall be designed so that it can be easily operated with one hand if  
        (a) the volatility of the solvent is greater than 2 kPa (15 mm Hg or 0.3 psi) measured at 38 degrees C (100 degrees F),

- (b) the solvent is agitated, or
- (c) the solvent is heated.

(2) An internal draining rack for cleaned parts shall be installed on which parts shall be drained until all dripping ceases. If the volatility of the solvent is greater than 4.3 kPa (32 mm Hg at 38 degrees C (100 degrees F)), the drainage facility must be internal, so that parts are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Waste or used solvent shall be stored in covered containers. Waste solvents or waste materials which contain solvents shall be disposed of by recycling, reclaiming, by incineration in an incinerator approved to process hazardous materials, or by an alternate means approved by the executive secretary.

(4) Tanks, containers and all associated equipment shall be maintained in good operating condition and leaks shall be repaired immediately or the degreaser shall be shutdown.

(5) Written procedures for the operation and maintenance of the degreasing or solvent cleaning equipment shall be permanently posted in an accessible and conspicuous location near the equipment.

(6) If the solvent volatility is greater than 4.3 kPa (33 mm Hg or 0.6 psi) measured at 38 degrees C (100 degrees F), or if solvent is heated above 50 degrees C (120 degrees F), then one of the following control devices shall be used:

- (a) freeboard that gives a freeboard ratio greater than 0.7;
- (b) water cover if the solvent is insoluble in and heavier than water;
- (c) other systems of equivalent control, such as a refrigerated chiller or carbon absorption.

(7) If used, the solvent spray shall be a solid fluid stream at a pressure which does not cause excessive splashing and may not be a fine, atomized or shower type spray. [Authority granted under R307-335-2; condition originated in R307-335-2]

II.B.45.a.1

**Monitoring:**

Visual inspections shall be made monthly to determine compliance with this condition.

II.B.45.a.2

**Recordkeeping:**

Results of monthly inspections and the volatility of the solvent(s) being used shall be recorded and maintained as described in Provision I.S.1 of this permit.

II.B.45.a.3

**Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.C. **Emissions Trading.**

(R307-415-6a(10))

Not applicable to this source.

II.D. **Alternative Operating Scenarios.**

(R307-415-6a(9))

Not applicable to this source.

### **Section III: PERMIT SHIELD**

The following requirements have been determined to be not applicable to this source in accordance with Provision I.M, Permit Shield:

**III.A. 40 CFR, Part 60, Subpart LL (NSPS, Metallic Mineral Processing Plants)**

This regulation is not applicable to the permitted source (Source-wide) because the smelter facility does not produce metallic mineral concentrates from ore and the smelter facility is not located adjacent to the concentrator facility

**III.B. 40 CFR Part 61, Subpart O (National Emission Standard for Inorganic Arsenic Emissions From Primary Copper Smelters)**

This regulation is not applicable to the Smelter Operations (Emission unit # Smelter) because the smelter does not charge molten matte to a copper converter. Subpart O: converter = vessel where copper matte is charged and oxidized to copper; copper matte = molten copper and iron sulfides produced by smelting. FCF not converter by definition.

### **Section IV: ACID RAIN PROVISIONS.**

**This source is not subject to Title IV. This section is not applicable.**

## REVIEWER COMMENTS

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This operating permit incorporates all applicable requirements contained in the following documents:

DAQE-AN0346024-03	dated	May 09, 2003
DAQE-836-00	dated	December 22, 2000
Utah SIP IX.H.2.b.Y	dated	December 18, 1992
Utah SIP IX.H.2.b.V	dated	December 18, 1992

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**1. Comment on an item originating in 40 CFR 60 Subpart P regarding Flash Smelting Furnace (FSF) (Unit SME 011b1)**

NSPS Subpart P application: The flash smelting furnace (FSF) and the flash converting furnace (FCF) each discharge to the acid plant through a series of control devices. NSPS 40 CFR 60 (Subpart P) [Standards of Performance for Primary Copper Smelters] is applicable to both the FSF and FCF. Due to both furnaces discharging directly to the acid plant, Subpart P shall be applied to the discharge of the acid plant in lieu of each individual furnace. [Comment last updated on 12/14/1998]

**2. Comment on an item originating in AO DAQE-836-00 Condition 17 regarding Smelter Operations (Unit Smelter)**

AO Condition 17. Not carried forward to this permit: Fugitive dust emissions during construction are not part of day-to-day operations and are appropriately covered by Utah rule R307-205 and R307-309. Condition 17 of AO DAQE-836-00 is therefore not carried forward to this permit. [Comment last updated on 5/03/2001]

**3. Comment on an item originating in AO DAQE-836-00 Conditions 21.D. & 21.E. regarding Smelter Operations (Unit Smelter)**

Weekly Observations and monthly inspections adequately addressed by other permit conditions: The referenced AO conditions indicate that "weekly observations of process units" and "monthly inspection of gas handling systems" respectively, shall be performed. Unit specific requirements (i.e. weekly opacity monitoring) and general operation and maintenance practices, as applicable conditions of this permit, address these two conditions adequately and therefore no specific references are necessary. [Comment last updated on 5/03/2001]

**4. Comment on an item originating in DAQE-AN0346024-03 regarding Refinery Operations (Unit Refinery)**

Refinery baghouse pressure drop readings: AO DAQE-AN0346024-03 does not contain a requirement for baghouse pressure drop readings. However, the pressure drop ranges for four baghouses in the refinery were submitted as part of the refinery equipment list, Appendix A. The baghouse ranges submitted are 2-6 inches Water Gauge for each baghouse as follows:

- Precious Metals Filter Press Baghouse (REF 008)
- Selenium Crushing and Packaging Baghouse (REF 009)
- Gold/Silver Recovery Baghouse (REF 010)

- Soda Ash Silo Baghouse (REF 011)

The above information has been included here for reference purposes only and are not included as a requirement of the permit. [Comment last updated on 5/22/2003]

**5. Comment on an item originating in AO DAQE-836-00 - 21 A, 21 B, 21 C, and 21 F regarding Smelter Operations (Unit Smelter)**

AO conditions subsumed by operation and maintenance requirements: AO DAQE-836-00 Conditions 21 A, 21 B, 21 C, and 21F are general requirements for maintenance of the gas handling systems. The general operations and maintenance requirement of this permit adequately addresses and subsumes the requirements of the above noted AO conditions. [Comment last updated on 5/03/2001]

**6. Comment on an item originating in AO DAQE-836-00 Condition 21H regarding Acid Plant (Unit SME 011b)**

AO condition 21.H. is a design requirement that has been met: AO DAQE-836-00 Condition 21H states that the permittee shall have contained conveyance of acid plant effluent solutions. This condition is a design requirement that has been verified to have been installed and therefore not a requirement carried forth into this permit. [Comment last updated on 5/03/2001]

**7. Comment on an item originating in AO DAQE-836-00 Condition 22 regarding Smelter Operations (Unit Smelter)**

AO condition 22. is a design requirement that has been met: AO DAQE-836-00 Condition 22 states that the permittee shall install secondary hoods and ventilation systems for fugitive emissions capture on the following: concentrate dryer feed chute, slag and matte granulators, smelting and converting furnaces, and slag pot filling stations. This condition is a design and installation requirement that has been verified to have been met and therefore not a requirement carried forth into this permit. [Comment last updated on 5/03/2001]

**8. Comment on an item originating in AO DAQE-AN0346024-03 Condition 16 regarding Refinery Operations (Unit Refinery)**

AO Condition 16 subsumed by other permit requirement: AO DAQE-AN0346024-03, Condition 16 states that fugitive dust from disturbed or stripped areas is required to not exceed 20% opacity at all times. This condition is subsumed by refinery operations wide condition II.B.34.c. 20% opacity. [Comment last updated on 5/22/2003]

**9. Comment on an item originating in AO DAQE-AN0346024-03 Conditions 17 regarding Refinery Operations (Unit Refinery)**

AO Condition 17 has not been carried over into this permit: Fugitive dust emissions during construction or demolition are not part of day-to-day operations and are appropriately covered by Utah rule R307-205-3. Condition 17 of AO DAQE-AN0346024-03 is therefore not carried forward into this permit. [Comment last updated on 5/22/2003]

**10. Comment on an item originating in December 4, 1998 Correspondence, DAQC-1919-98 regarding Powerhouse Holman Boiler (Stack 26) (Unit SME 026)**

Approved Alternate Monitoring Plan (plan submitted October 2, 1998 and approved December 4, 1998): A 30 day test was performed between May 16, 1998 and June 14, 1998. Test results indicated the Holman Boiler easily met permit limits for NO<sub>x</sub>

emissions (0.0373 lb/mmBtu (30 day average) and 3.77 lb/hr (30 day average)). In fact, no single hour exceeded either 0.05 lb/mmBtu or 9.34 lb/hr NO<sub>x</sub> emissions.

The relationship between the monitored parameter (heat input mmBtu/hr) and NO<sub>x</sub> emissions (lb/hr) is well developed in the plan. In fact, an additional 75 days monitoring was performed following the initial 30 day test to verify the validity of the developed predictive equation. During the additional test period, measured NO<sub>x</sub> emissions averaged 2.8 lb/hr and predicted NO<sub>x</sub> emissions averaged 3.0 lb/hr. NO<sub>x</sub> emissions (lb/mmBtu) are easily calculated from the mass emission rate. It must be noted here that the predictive equation developed for this plan is only valid for operating conditions present during the test period. For this reason, the position of the flue gas recirculation damper and the flue gas oxygen concentrations are also monitored. The position of the flue gas recirculation damper was adjusted twice during the early part of the test and had significant impact on the line of regression used to predict emissions (line of regression shifted with each adjustment). In fact, the test start date was modified to begin following the second adjustment of the flue gas recirculation damper. Moving the position of the damper triggers a requirement to perform an additional 30 day test via a certified NO<sub>x</sub> CEM in accordance with 40 CFR 60.46b(e). Similarly, flue gas oxygen concentrations never exceeded 3.3 percent (except for brief periods associated with boiler startup and shutdown) during the test period. Analysis of test data, however, did indicate that flue gas oxygen concentrations near 3.3% at high heat inputs (greater than 160 mmBtu/hr) correlated with elevated NO<sub>x</sub> emissions approaching 0.05 lb/mmBtu. For this reason, a flue gas oxygen concentration of 3.3% (30 day average) was selected as a trigger to perform an additional 30 day test via a certified NO<sub>x</sub> CEM in accordance with 40 CFR 60.46b(e).

The boiler does not use staged combustion, so it is not possible to monitor that parameter.

Boiler steam output is also monitored since a very close correlation between heat input (mmBtu/hr) and steam output (lbs/hr) was observed during the test period. The steam output parameter can be used to predict heat input if natural gas input and measured heat input are unavailable. [Comment last updated on 11/16/1999]